



Service Manual

Service Manual

GS500



Model : GS500



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1. INTRODUCTION

1.1 Purpose

This manual provides the information necessary to repair, calibration, description and download the features of the GS500.

1.2 Regulatory Information

A. Security

Toll fraud, the unauthorized use of telecommunications system by an unauthorized part (for example, persons other than your company's employees, agents, subcontractors, or person working on your company's behalf) can result in substantial additional charges for your telecommunications services. System users are responsible for the security of own system.

There might be risks of toll fraud associated with your telecommunications system. System users are responsible for programming and configuring the equipment to prevent unauthorized use. LGE does not warrant that this product is immune from the above case but will prevent unauthorized use of common carrier telecommunication service of facilities accessed through or connected to it. LGE will not be responsible for any charges that result from such unauthorized use.

B. Incidence of Harm

If a telephone company determines that the equipment provided to customer is faulty and possibly causing harm or interruption in service to the telephone network, it should disconnect telephone service until repair can be done. A telephone company may temporarily disconnect service as long as repair is not done.

C. Changes in Service

A local telephone company may make changes in its communications facilities or procedure. If these changes could reasonably be expected to affect the use of the GS500 or compatibility with the net work, the telephone company is required to give advanced written notice to the user, allowing the user to take appropriate steps to maintain telephone service.

D. Maintenance Limitations

Maintenance limitations on the GS500 must be performed only by the LGE or its authorized agent. The user may not make any changes and/or repairs except as specifically noted in this manual. Therefore, note that unauthorized alternations or repair may affect the regulatory status of the system and may void any remaining warranty.

1. INTRODUCTION

E. Notice of Radiated Emissions

This model complies with rules regarding radiation and radio frequency emission as defined by local regulatory agencies. In accordance with these agencies, you may be required to provide information such as the following to the end user.

F. Pictures


The pictures in this manual are for illustrative purposes only; your actual hardware may look slightly different.

G. Interference and Attenuation

GS500 may interfere with sensitive laboratory equipment, medical equipment, etc. Interference from unsuppressed engines or electric motors may cause problems.

H. Electrostatic Sensitive Devices

ATTENTION

Boards, which contain Electrostatic Sensitive Device (ESD), are indicated by the  sign. Following information is ESD handling:

- Service personnel should ground themselves by using a wrist strap when exchange system boards.
- When repairs are made to a system board, they should spread the floor with anti-static mat which is also grounded.
- Use a suitable, grounded soldering iron.
- Keep sensitive parts in these protective packages until these are used.
- When returning system boards or parts like EEPROM to the factory, use the protective package as described.

1.3 ABBREVIATION

For the purposes of this manual, following abbreviations apply:

◆ APC	Automatic Power Control
◆ BB	Baseband
◆ BER	Bit Error Ratio
◆ CC-CV	Constant Current – Constant Voltage
◆ CLA	Cigar Lighter Adapter
◆ DAC	Digital to Analog Converter
◆ DCS	Digital Communication System
◆ dBm	dB relative to 1 milli-watt
◆ DSP	Digital Signal Processing
◆ EEPROM	Electrical Erasable Programmable Read-Only Memory
◆ EGPRS	Enhanced General Packet Radio Service
◆ EL	Electroluminescence
◆ ESD	Electrostatic Discharge
◆ FPCB	Flexible Printed Circuit Board
◆ GMSK	Gaussian Minimum Shift Keying
◆ GPIB	General Purpose Interface Bus
◆ GPRS	General Packet Radio Service
◆ GSM	Global System for Mobile Communications
◆ IPUI	International Portable User Identity
◆ IF	Intermediate Frequency
◆ LCD	Liquid Crystal Display
◆ LDO	Low Drop Output
◆ LED	Light Emitting Diode
◆ LGE	LG Electronics
◆ OPLL	Offset Phase Locked Loop
◆ PAM	Power Amplifier Module
◆ PCB	Printed Circuit Board
◆ PGA	Programmable Gain Amplifier
◆ PLL	Phase Locked Loop
◆ PSTN	Public Switched Telephone Network

1. INTRODUCTION

◆ RF	Radio Frequency
◆ RLR	Receiving Loudness Rating
◆ RMS	Root Mean Square
◆ RTC	Real Time Clock
◆ SAW	Surface Acoustic Wave
◆ SIM	Subscriber Identity Module
◆ SLR	Sending Loudness Rating
◆ SRAM	Static Random Access Memory
◆ STMR	Side Tone Masking Rating
◆ TA	Travel Adapter
◆ TDD	Time Division Duplex
◆ TDMA	Time Division Multiple Access
◆ UART	Universal Asynchronous Receiver/Transmitter
◆ VCO	Voltage Controlled Oscillator
◆ VCTCXO	Voltage Control Temperature Compensated Crystal Oscillator
◆ WAP	Wireless Application Protocol
◆ 8PSK	8 Phase Shift Keying

1.4 Difference table of GB500 Model

Model Name	VT	RF BAND
GS500	X	GSM850/EGSM/DCS/PCS , W900/W2100
GS500f	X	GSM850/EGSM/DCS/PCS , W850/W2100
GS500g	X	GSM850/EGSM/DCS/PCS , W850/W1900
GS500v	O	GSM850/EGSM/DCS/PCS , W900/W2100
GS500K	O	GSM850/EGSM/DCS/PCS , W850/W2100

2. PERFORMANCE

2.1 Supporting Standard

Item	Feature	Comment
Supporting Standard	W900/W2100 * (W850/W2100, W850/W1900) GSM850/EGSM/DCS/PCS with seamless handover Phase 2+(include AMR) SIM Toolkit : Class 3	GS500 *(GS500f / GS500g)
Frequency Range	GSM850 TX : 824 - 849MHz GSM850 RX : 869 - 894MHz EGSM TX : 880 - 915 MHz EGSM RX : 925 - 960 MHz DCS TX : 1710 - 1785 MHz DCS RX : 1805 - 1880 MHz PCS TX : 1850 - 1910 MHz PCS RX : 1930 - 1990 MHz	
Application Standard	WAP 2.0, JAVA 2.1	

2.2 Main Parts : Solution

Item	Part name	Comment
Digital Baseband	PMB8878 (Infineon)	
Analog Baseband	PMB8878 (Infineon)	
RF chip	PMB6952 (Infineon)	

2. PERFORMANCE

2.3 H/W features

Item		Feature	Comment
Form Factor		Color LCD – Bar Type	
Battery		1)Capacity Standard : Li-Ion, 900mAh	
		2) Packaging Type : Soft Pack	
Size		107 × 52.5 × 11.5mm	
Weight		92.5g	With Battery
Stand-by time		227 hours	@paging period 5
Talk time		170min	@ Power Level 5
Charging time		2hours 20min	@power OFF/900mAh
Rx sensitivity		GSM850 : -105 dBm EGSM900 : -105 dBm DCS1800 : -105 dBm PCS1900 : -105 dBm	
TX output power	GSM/ GPRS	GSM850 : 32.5 dBm EGSM900 : 32.5 dBm DCS1800 : 29.5 dBm PCS1900 : 29.5 dBm	Class4 (GSM850) Class4 (EGSM900) Class1(DCS) Class1(PCS)
	EDGE	GSM850 : 27 dBm EGSM900 : 27 dBm DCS1800 : 26 dBm PCS1900 : 26 dBm	E2 (GSM850) E2 (EGSM900) E2 (DCS) E2 (PCS)
GPRS compatibility		GPRS Class 12	
EDGE compatibility		EDGE Class 12	
Display		Main LCD(3", 240x400 WQVGA) /TFT	
Built-in Camera		3 Mega pixel	
ANT		Main : Internal Fixed Type	
System connector		5 Pin	
Ear Phone Jack		Ø3.5 4 Pole, Stereo	
PC synchronization		Yes	
Speech coding		FR, EFR, HR, AMR	
Vibrator		Built in Vibrator	
Bluetooth		V2.1 with A2DP	
Voice Recording		Yes	

2. PERFORMANCE

Item	Feature	Comment
Speaker Phone mode Support	Yes	
Travel Adapter	Yes	
CDROM	No	
Stereo Headset	Yes	
Data Cable	No	
T-Flash	Yes	Not Equipped

2. PERFORMANCE

2.4 HW Spec.

2.4.1 GSM Transmitter / Receiver spec.

Item	Specification
Frequency	GSM 850 TX : 824 - 849 MHz RX : 869 - 894 MHz EGSM TX : 880 - 915 MHz RX : 925 - 960 MHz DCS TX : 1710 - 1785 MHz RX : 1805 - 1880 MHz PCS TX : 1850 - 1910 MHz RX : 1930 - 1990 MHz
Phase Error	Rms : 5° Peak : 20 °
Frequency Error	GSM : 0.1 ppm DCS/PCS : 0.1 ppm
EMC(Radiated Spurious Emission Disturbance)	GSM/DCS : < -28dBm
Transmitter Output power and Burst Timing	GSM : 5dBm – 33dBm ± 3dB DCS/PCS : 0dBm – 30dBm ± 3dB
Burst Timing	<3.69us
Spectrum due to modulation out to less than 1800kHz offset	200kHz : -36dBm 600kHz : -51dBm/-56dBm
Spectrum due to modulation out to larger than 1800kHz offset to the edge of the transmit band	GSM : 1800-3000kHz : < -63dBc(-46dBm) 3000kHz-6000kHz : < -65dBc(-46dBm) 6000kHz < : < -71dBc(-46dBm) DCS : 1800-3000kHz : < -65dBc(-51dBm) 6000kHz < : < -73dBc(-51dBm)
Spectrum due to switching transient	400kHz : -19dBm/-22dBm(5/0), -23dBm 600kHz : -21dBm/-24dBm(5/0), -26dBm
Reference Sensitivity – TCH/FS	Class II(RBER) : -105dBm(2.439%)
Usable receiver input level range	0.012(-15 – -40dBm)
Intermodulation rejection – Speech channels	± 800kHz, ± 1600kHz : -98dBm/-96dBm (2.439%)
AM Suppression – GSM : -31dBm – DCS : -29dBm	-98dBm/-96dBm (2.439%)
Timing Advance	± 0.5T

2.4.2 WCDMA Transmitter spec.

Item	Specification
Transmit Frequency	WCDMA900 : 880 MHz ~915 MHz WCDMA2100 : 1920 ~1980 MHz
Maximum Output Power	+24 dBm / 3.84 MHz, +1 / -3 dB
Frequency Error	within ± 0.1 PPM
Open Loop Power Control	Normal Conditions : within ± 9 dB, Extreme Conditions : within ± 12 dB
Minimum Transmit Power	< -50 dBm / 3.84 MHz
Occupied Bandwidth	< 5 MHz at 3.84 Mcps (99% of power)
Adjacent Channel Leakage Power Ratio (ACLR)	> 33 dB @ ± 5 MHz, > 43 dB @ ± 10 MHz
Spurious Emissions $ f-f_c > 12.5$ MHz	< -36 dBm / 1 kHz RW @ $9 \text{ kHz} \leq f < 150 \text{ kHz}$ < -36 dBm / 10 kHz RW @ $150 \text{ kHz} \leq f < 30 \text{ MHz}$ < -36 dBm / 100 kHz RW @ $30 \text{ MHz} \leq f < 1 \text{ GHz}$ < -30 dBm / 1 MHz RW @ $1 \text{ GHz} \leq f < 12.75 \text{ GHz}$ < -41 dBm / 300 kHz RW @ $1893.5 \text{ MHz} < f < 1919.6 \text{ MHz}$ < -67 dBm / 100 kHz RW @ $925 \text{ MHz} \leq f \leq 935 \text{ MHz}$ < -79 dBm / 100 kHz RW @ $935 \text{ MHz} < f \leq 960 \text{ GHz}$ < -71 dBm / 100 kHz RW @ $1805 \text{ MHz} \leq f \leq 1880 \text{ MHz}$
Transmit Intermodulation	< -31 dBc @ 5 MHz & < -41 dBc @ 10 MHz when Interference CW Signal Level = -40 dBc
Error Vector Magnitude	< 17.5 %, when Pout \geq -20 dBm
Peak Code Domain Error	< -15 dB at Pout \geq -20 dBm

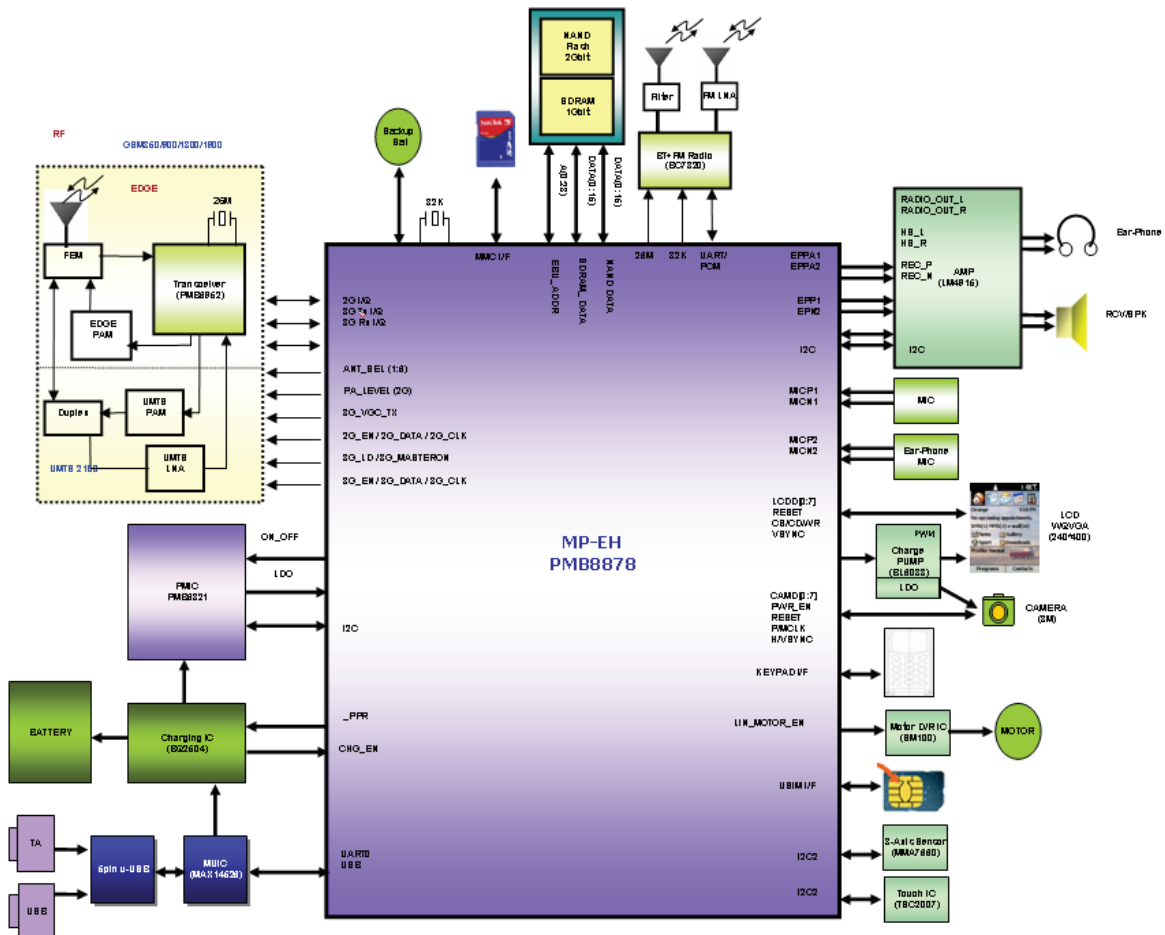
2. PERFORMANCE

2.4.3 WCDMA Receiver spec.

Item	Specification
Receive Frequency	WCDMA900 : 925 MHz ~ 960 MHz WCDMA2100 : 2110 ~ 2170 MHz
Reference Sensitivity Level	BER < 0.001 when $\hat{I}_{or} = -106.7$ dBm / 3.84 MHz
Maximum Input Level	BER < 0.001 when $\hat{I}_{or} = -25$ dBm / 3.84 MHz
Adjacent Channel Selectivity (ACS)	ACS > 33 dB where BER < 0.001 when $\hat{I}_{or} = -92.7$ dBm / 3.84 MHz & $I_{oac} = -52$ dBm / 3.84 MHz @ ± 5 MHz
Blocking Characteristic	BER < 0.001 when $\hat{I}_{or} = -103.7$ dBm / 3.84 MHz & $I_{blocking} = -56$ dBm / 3.84 MHz @ $F_{uw}(\text{offset}) = \pm 10$ MHz or $I_{blocking} = -44$ dBm / 3.84 MHz @ $F_{uw}(\text{offset}) = \pm 15$ MHz
Spurious Response	BER < 0.001 when $\hat{I}_{or} = -103.7$ dBm / 3.84 MHz & $I_{blocking} = -44$ dBm
Intermodulation	BER < 0.001 when $\hat{I}_{or} = -103.7$ dBm / 3.84 MHz & $I_{ouw1} = -46$ dBm @ $F_{uw1}(\text{offset}) = \pm 10$ MHz & $I_{ouw2} = -46$ dBm / 3.84 MHz @ $F_{uw2}(\text{offset}) = \pm 20$ MHz
Spurious Emissions	< -57 dBm / 100 kHz BW @ $9 \text{ kHz} \leq f < 1 \text{ GHz}$ < -47 dBm / 1 MHz BW @ $1 \text{ GHz} \leq f \leq 12.75 \text{ GHz}$

3. BB CIRCUIT TECHNICAL BRIEF

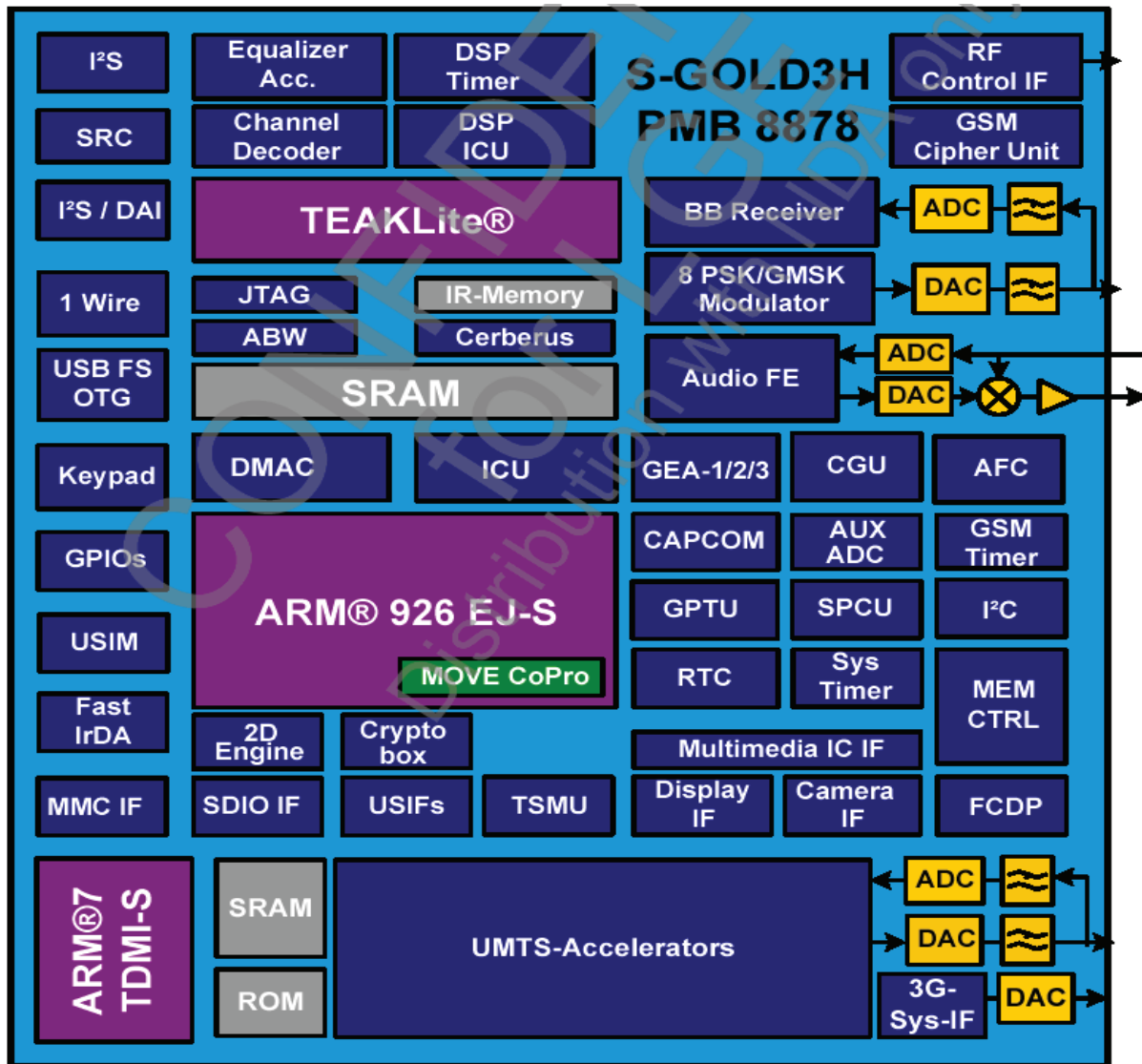
3.1 Functional Block Diagram



[Figure 3.1] Functional Block Diagram

3. BB CIRCUIT TECHNICAL BRIEF

3.2 Baseband Processor Introduction



[Figure 3.2] Top level block diagram of S-GOLD®3H(PMB8878)

3.2.1 General description

S-GOLD®3H is a HSDPA/WCDMA/EDGE/GPRS/GSM system in package solution consisting of a mixed signal baseband IC combined with a 3G coprocessor IC, providing all analog and digital functionality for a dual mode mobile phone in a single chip.

Both ICs building up the **S-GOLD®3H** SiP are manufactured in infineon Technologies` 1.35V 90nm CMOS technology to meet the ever increasing demands of the market for feature rich and high performance terminals at low costs.

The chip will support the FR, EFR, HR and AMR-NB vocoding.

S-GOLD®3H support multi-slot operation modes HSCSD (up to class 10), GPRS for high speed data application (up to class 12), EGPRS (up to class 12) and DTM(class11) without additional external hardware.

3.2.2 Block Description

● Processing core

- ARM926EJ-S 32 bit processor core for controller functions. The ARM926EJ-S includes an MMU, and the Jazelle Java extension for Java acceleration and a MOVE co-processor to accelerate Motion Estimation algorithms with based video encoding schemes..
- TEAKLite DSP core

● ARM9-Memory

- 32k Byte Boot ROM on the AHB
- 128k Byte SRAM on the AHB, flexibly usable as program or data RAM
- 32k Byte Instruction Cache
- 32k Byte Data Cache
- 8k Byte Instruction Tightly coupled Memory (I-TCM)
- 8k Byte Data tightly coupled memory (D-TCM)

● TEAKLite®-Memory

- 120k x 16bit Program ROM
- 8k x 16bit Program RAM
- 72k x 16bit Data ROM
- 48k x 16bit Data XRAM
- 5k x 16bit Data YRAM
- Incremental Redundancy(IR) Memory of 35904 words of 16bit

3. BB CIRCUIT TECHNICAL BRIEF

● Shared Memory Block

1.5K x 32bit Shared RAM(dual ported) between controller system and TEAKLite®.

● Controller Bus system

The processor cores and their peripherals are connected by powerful buses.

- Multi-layer AHB for connecting the ARM and the other master capable building blocks with the internal and external memories and with the peripheral buses.
- An FPI-Bus for connecting GSM peripherals, called hereafter FPI3 bus.
- A controller FPI bus for connecting the low performance controller peripherals such as keypad etc. called hereafter fPI2 bus.
- FPI2 and FPI3 are connected asynchronously to the AHB buses. 1 DMA controller with 8channels offloads the controller from data transfers.
- 2 AHB Lite buses for connecting multi-media and high performance peripherals, called AHB_PER1 and AHB_PER2 hereafter. These peripheral buses are connected to the multi-layer AHB 'backbone' by asynchronous, burst capable AHB2AHB bridges which are shared between accessing masters.
- The DMA controller is enabled to access AHB_PER1 by use of its first master interface and AHB_PER2 by its second master interface.

● TEAKLite® Bus System

- 1 TEAKLite® data bus for connecting the TEAKLite® data memory and the TEAKLite® peripherals. Also the data bus is connected into the controller system via shared RAMs to the FPI3 bus.
- 1 TEAKLite® program bus for connecting the TEAKLite® program memory to the TEAKLite®.

● Clock system

The clock system allows widely independent selection of frequencies for the essential parts of the S-GOLD®3H. Thus power consumption and performance can be optimized for each application.

● Functional Hardware block

- CPU and DSP Timers
- MOVE coprocessor performing motion estimation for video encoding algorithms (H.263, MPEG-4)
- Programmable PLL with four additional phase shifters for system clock generation
- GSM Timer Module that off-loads the CPU from radio channel timing
- GMSK / 8-PSK Modulator according to GSM-standard 05.04 (5/2000)
- GMSK Modulator: gauss-filter with $B \cdot T = 0.3$
- EDGE Modulator: 8PSK-modulation with linearized GMSK-Pulse-Filter
- Hardware accelerators for equalizer and channel decoding.
- Incremental Redundancy memory for EDGE class 12 support
- A5/1, A5/2, A5/3 Cipher unit
- GEA1, GEA2, GEA3 Cipher Unit to support GPRS data transmission
- f8 and f9 Cipher unit
- Advanced static and dynamic power management features including TDMA-Frame synchronous low-power mode and enhanced CPU modes(idle and sleep modes)
- 2D engine for support of image processing and 2D graphics applications. The 2D engine is tightly coupled to the display interface. The resulting building block consisting of 2D engine and Display interface is called Display Content Controller (DCC)
- Security crypto box supporting
 - AES, DES, 3 DES
 - Hash function
 - RSA acceleration
 - Secret Root Key (e-fuse) and Key Management
 - True Random Number Generator
- Sample Rate Converter (SRC) for audio up-sampling
- Comprehensive static and dynamic Power Management
 - Various frequency options during operation mode
 - 32 kHz clock in standby mode
 - Sleep control in standby mode
 - RAMs and ROMs in power save mode during standby mode
 - Additional leakage current reduction in standby mode possible by switching off for the TEAKLitre® subsystem.

3. BB CIRCUIT TECHNICAL BRIEF

- Extensive debug support for the controller and the DSP system
 - OCDS level 2+ (run control, non-intrusive program flow trace and limited data flow trace) for ARM
 - OCDS level 1+ (run control, limited program flow trace) for the TEAKLite®
 - Multi-core debug support
 - 4 Monitor pins for important internal signals and most pad signals
 - Cerberus debugging unit
- 2 General Purpose Timers with 3 32-bit timers
- Serial number
- A real time clock with alarm functions
- 2 capture/compare units with 16 channels. One channel active during sleep mode.

● 3G Coprocessor Subsystem

- ARM7 TRMI-S
 - 240 kByte Instruction RAM
 - 64 kByte Data RAM
 - 8 kByte Boot ROM
- 20kByte Communication RAM
- HW accelerators for
 - Transmit Path
 - Inner and Outer Receiver for Release5 incl. HSDPA

3.2.3 RF Interface(T_OUT)

S-Gold® 3H uses this interface to control RF IC and Peripherals.

[Table 3.2.3-1] RF Interface Spec.

T_OUT		
Resource	Interconnection	Description
T_OUT0	TXON_PA	PAM Power on
T_OUT1	NA	-
T_OUT2	ANT_SEL1	Antenna select logic
T_OUT3	HOOK_DETECT	
T_OUT4	_CHG_EOC	Battery end of charge control
T_OUT5	JACK_DETECT	
T_OUT6	PA_MODE	PAM Mode select
T_OUT7	ANT_SEL2	
T_OUT8	ANT_SEL3	
T_OUT9	KEY_BACK_EN	
T_OUT10	DSR	LCD backlight control Battery charge enable
T_IN0	LCD_BL_CTRL	
T_IN1	CHG_EN	

3. BB CIRCUIT TECHNICAL BRIEF

3.2.4 ADC channel

ADC block is composed of 11 external ADC channel. This block operates charging process and other related process by reading battery voltage and other analog values.

[Table 3.2.4-1] S-Gold3 ADC channel usage

ADC channel		
Resource	Interconnection	Description
M0	BAT_ID	Battery temperature measure
M1	RF_TEMP	RF block temperature measure
M2	NC	
M3	NC	
M4	NC	
M5	N.C	
M6	N.C	
M7	HW revision reserved pin	
M8	VBAT (divide resistor)	Battery supply voltage measure
M9	N.C	
M10	N.C	

3.2.5 GPIO map

Over a hundred allowable resources, GS500 is using as follows except dedicated to SIM and Memory. GS500 GPIO(General Purpose Input/Output) Map, describing application, I/O state, and enable level, is shown in below table

[Table 3.2.5-1] S-Gold®3H GPIO pin Map

<i>Port Function</i>	<i>Net Name</i>	<i>Description</i>
KEY MATRIX		
KP_IN0	KEYIN(0)	
KP_IN1	KEYIN(1)	
KP_IN2	KEYIN(2)	
KP_IN3	NA	
KP_IN4	KEYIN(4)	
KP_IN5	NA	
KP_IN6	NA	
KP_OUT0	KEYOUT0	
KP_OUT1	KEYOUT1	
KP_OUT2	IF_MODE[0]	
KP_OUT3	IF_MODE[1]	
USIF1		
USIF1_RXD_MRST	UART_RX	UART Data
USIF1_TXD_MTSR	UART_TX	UART Data
USIF1_RTS_N	USB_DAT_VP	USB Data
USIF1_CTS_N	USB_SE0_VM	USB Data
USIF2		
USIF2_RXD_MRST	NA(NOT available)	
USIF2_TXD_MTSR	RPWRON	
USIF2_RTS_N	BT_UART_RTS	Bluetooth RTS
USIF2_CTS_N	BT_UART_CTS	Bluetooth CTS
USIF3		
USIF3_RXD_MRST	BT_UART_RX	
USIF3_TXD_MTSR	BT_UART_TX	
USIF3_SCLK	LIN_MOTOR_EN	
CLK		
CLK32K	CLK32k	For FM Radio, BT CLK32K

3. BB CIRCUIT TECHNICAL BRIEF

CAMERA I/F		
CIF_D0	CAM_D0	
CIF_D1	CAM_D1	
CIF_D2	CAM_D2	
CIF_D3	CAM_D3	
CIF_D4	CAM_D4	
CIF_D5	CAM_D5	
CIF_D6	CAM_D6	
CIF_D7	CAM_D7	
CIF_PCLK	CIF_PCLK	
CIF_HSYNC	CIF_HSYNC	
CIF_VSYNC	CIF_VSYNC	
CLKOUT2	CIF_MCLK	
CIF_PD	MAIN_CAM_PD	
CIF_RESET	MAIN_CAM_RESET	
LCD I/F		Display interface
DIF_D0	LCD_DATA[0]	
DIF_D1	LCD_DATA[1]	
DIF_D2	LCD_DATA[2]	
DIF_D3	LCD_DATA[3]	
DIF_D4	LCD_DATA[4]	
DIF_D5	LCD_DATA[5]	
DIF_D6	LCD_DATA[6]	
DIF_D7	LCD_DATA[7]	
DIF_D8	LCD_ID	
DIF_DS1	LCD_CS_N	
DIF_DS2	TF_DETECT	
DIF_CD	LCD_ADS	
DIF_WR	LCD_WR_N	
DIF_RD	LCD_RD_N(NA)	
DIF_HD	BT_BOST_WAKEUP	
DIF_VD	LCD_VSYNC	
DIF_RESET1	LCD_RESET	
DIF_RESET2	A_RESET	
I2C		
I2C1_SCL	I2C1_SCL	

3. BB CIRCUIT TECHNICAL BRIEF

I2C1_SDA	I2C1_SDA	
PM_INT (EINT)	PM_INT	
I2C2_SCL	I2C2_SCL	
I2C2_SDA	I2C2_SDA	
I2S1		
I2S1_CLK0	BT_PCM_CLK	
I2S1_CLK1	NA	
I2S1_RX	BT_PCM_IN	
I2S1_TX	BT_PCM_OUT	
I2S1_WA0	BT_PCM_SYNC	
I2S2		
I2S2_CLK0	BT_RESET_N	
I2S2_CLK1	I2S2_CLK	
I2S2_RX	I2SE_RX	
I2S2_TX	NA	
I2S2_WA0	TOUCH_INT	
I2S2_WA1	I2S2_SYNC	
External Memory		
MMCI1_CMD	WLAN_CMD	
MMCI1_DAT[0]	WLAN_DAT[0]	
MMCI1_CLK	WLAN_CLK	
MMCI1_DAT[1]	WLAN_DAT[1]	
MMCI1_DAT[2]	WLAN_DAT[2]	
MMCI1_DAT[3]	WLAN_DAT[3]	
MMCI2_CMD	NA	
MMCI2_DAT[0]	NA	
MMCI2_CLK	JACK_DETECT	
IrDA		
IRDA_TX	USB_OEN	For USB
IRDA_RX	MUIC_INT	
I2S1		
I2S1_CLK0	BT_PCM_CLK	For Bluetooth
I2S1_CLK1	NA	
I2S1_RX	BT_PCM_IN	For Bluetooth

3. BB CIRCUIT TECHNICAL BRIEF

I2S1_TX	BT_PCM_OUT	For Bluetooth
I2S1_WA0	BT_PCM_SYNC	For Bluetooth
Audio I/F		
EPN1	RCV_N	For Receiver
EPP1	RCV_P	For Receiver
EPPA1	BB_SND_L	For Headset
EPREF	NA	Reference
EPPA2	BB_SND_R	For Headset
MICN1	MAIN_MIC_N	For Main Mic
MICP1	MAIN_MIC_P	For Main Mic
MICN2	HS_MIC_N	For Headset Mic
MICP2	HS_MIC_P	For Headset Mic
VMICP	VMIC_P	Power for MIC
VMICN	VMIC_GND	Ground for MIC
ADC		
M0	BAT_ID	Battery temperature measure
M1	RF_TEMP	RF block temperature measure
M7	HW revision reserved pin	
M8	VBAT (divide resistor)	
M2 ,M3,M4,M5, M6, M9,M10	NA	
Reference		
VREFP	VREFN	
IREF	GND with resistor	22K(1%)
JTAG I/F		
JTAG0_TDO	TDO	
JTAG0_TDI	TDI	
JTAG0_TMS	TMS	
JTAG0_TCK	TCK	
JTAG0_TRST_N	TRSTN	
JTAG0_RTCK	RTCK	
JTAG1_TDO	A_TDO	
JTAG1_TDI	A_TDI	
JTAG1_TMS	A_TMS	
JTAG1_RTCK	A_RTCK	
RST_N	A_RESTET	

3. BB CIRCUIT TECHNICAL BRIEF

ETM I/F		
TRIG_IN	TRIG_IN	
MON1	2V62_VIO	ETM
MON2	GND	ETM
TRACESYNC	TRACESYNC	
TRACECLK	TRACECLK	
PIPESTAT2	PIPESTAT2	
PIPESTAT1	PIPESTAT1	
PIPESTAT0	PIPESTAT0	
TRACEPKT0	TRACEPKT0	
TRACEPKT1	TRACEPKT1	
TRACEPKT2	TRACEPKT2	
TRACEPKT3	TRACEPKT3	
TRACEPKT4	TRACEPKT4	
TRACEPKT5	TRACEPKT5	
TRACEPKT6	TRACEPKT6	
TRACEPKT7	TRACEPKT7	
Memory		
MEM_AD[0]	DATA(0)	
MEM_AD[1]	DATA(1)	
MEM_AD[2]	DATA(2)	
MEM_AD[3]	DATA(3)	
MEM_AD[4]	DATA(4)	
MEM_AD[5]	DATA(5)	
MEM_AD[6]	DATA(6)	
MEM_AD[7]	DATA(7)	
MEM_AD[8]	DATA(8)	
MEM_AD[9]	DATA(9)	
MEM_AD[10]	DATA(10)	
MEM_AD[11]	DATA(11)	
MEM_AD[12]	DATA(12)	
MEM_AD[13]	DATA(13)	
MEM_AD[14]	DATA(14)	
MEM_AD[15]	DATA(15)	
MEM_WR_n	_WR	
MEM_RD_n	_RD	

3. BB CIRCUIT TECHNICAL BRIEF

MEM_BC0_n	_BC0	
MEM_BC1_n	_BC1	
MEM_BC2_n	LDQS	
MEM_BC3_n	UDQS	
MEM_A[0]	ADD(0)	
MEM_A[1]	ADD(1)	
MEM_A[2]	ADD(2)	
MEM_A[3]	ADD(3)	
MEM_A[4]	ADD(4)	
MEM_A[5]	ADD(5)	
MEM_A[6]	ADD(6)	
MEM_A[7]	ADD(7)	
MEM_A[8]	ADD(8)	
MEM_A[9]	ADD(9)	
MEM_A[10]	ADD(10)	
MEM_A[11]	ADD(11)	
MEM_A[12]	ADD(12)	
MEM_A[13]	ADD(13)	
MEM_A[14]	ADD(14)	
MEM_A[15]	ADD(15)	
MEM_A[16]	ADD(16)	
MEM_A[17]	ADD(17)	
MEM_A[18]	ADD(18)	
MEM_A[19]	ADD(19)	
MEM_A[20]	ADD(20)	
MEM_A[21]	ADD(21)	
MEM_A[22]	ADD(22)	
MEM_A[23]	ADD(23)	
MEM_A[24]	ADD(24)	
MEM_A[25]	ADD(25)	
MEM_A[26]	ADD(26)	
MEM_CSA0_N	ADD(27)	
MEM_CSA1_N	ADD(28)	
MEM_CSA2_N	ADD(29)	
MEM_CSA3_N	BA0	
MEM_CS0_n	_NAND_CS	INTEL NOR (64MB)

3. BB CIRCUIT TECHNICAL BRIEF

MEM_CS1_n	_RAM_CS	INTEL SDRAM (64MB)
MEM_CS2_n	NA	
MEM_CS3_n	_CS3	
MEM_ADV_n	BA1	
MEM_RAS_n	_RAS	
MEM_CAS_n	_CAS	
MEM_WAIT_n	_WAIT	
Memory		
FCDP_RBn	FCDP	
TDMA I/F		
T_OUT0	TXON_PA	PAM
T_OUT1	NA	
T_OUT2	ANT_SEL1	
T_OUT3	HOOK_DETECT	
T_OUT4	_CHG_EOC	Charging terminate signal
T_OUT5	JACK_DETECT	Jack detect
T_OUT6	PA_MODE	PAM
T_OUT7	ANT_SEL2	
T_OUT8	ANT_SEL3	
T_OUT9	NA	
T_OUT10	DSR	
T_IN0	LCD_BL_CTRL	
T_IN1	CHG_EN	Charging enable
RF I/F		
RF_STR0	2G_EN	
RF_STR1	_PPR	Charger detect
RF_DATA	2G_DATA	
RF_CLK	2G_CLK	
GPIO[7]	3G_LD	
GPIO[10]	3G_MASTER_ON	
GPIO[15]	3G_PA_MODE1	
GPIO[16]	ANT_SEL4	
GPIO[17]	ANT_SEL5	
GPIO[18]]	ANT_SEL6	
System Port		
AFC	AFC	

3. BB CIRCUIT TECHNICAL BRIEF

CLKOUT0 [$\leq 26\text{MHz}$]	CLK26M	Not used
F26M	26MHZ	26M Main Clock
F32K	32.768KHZ	to 32k crystal
OSC32K	32.768KHZ	to 32k crystal
RESET_n	_RESET	
TRIG_IN	TRIG_IN	
RTC_OUT	RTC_OUT	
SPCU_RC_OUT0	PM_VCXO_EN	
DSP		
DSPIN0	CLK32K	
DSPOUT1	NA	
DSPIN1	LIN_PWM_FREQ	

3.3 Power management IC

3.3.1 General Description

SM-POWER is a highly integrated Power and Battery Management IC for mobile handsets. It has been specially designed for usage with S-Gold3. Although optimized for usage with the Infineon SGOLD baseband device it is suitable for the S-GOLD lite and the E-GOLD+ baseband devices as well.

It also supports the cellular RF devices like SMARTi-DC, SMARTi-DC+, SMARTi-SD and the Bluemoon Single, Infineon's single chip solution for Bluetooth. If used with S-GOLD3 it provides all power supply functions (except for the RF PA) for a complete advanced GSM Edge smart phone minimizing external device count.

Block Description

- Highly efficient step-down converter for main digital baseband supply including Core, DSP and memory interface (External Bus Unit).
- Support of S-GOLD standby power-down concept
- Low-drop-out (LDO) regulators for Flash and mobile RAM memory devices
- Voltage independent switching of two SIM cards
- LDO regulators for baseband I/O supply
- LDO regulator for analog mixed-signal section of S-GOLD
- Low-noise LDO regulators for RF devices
- Supply for Bluemoon Single, Infineon's single chip solution for Bluetooth
- Audio amplifier 8 Ohms for handsfree operation and ringing
- Charge Control for charging Li-Ion/Polymer batteries under software control
- Pre-charge current generator with selectable current level
- RTC regulator with ultra-low quiescent current
- USB interface support for peripheral and mini-host mode
- Backlight LEDs driver with current selection and PWM dimming function
- Two single LED driver outputs for signaling
- Vibrator driver with adjustable voltage
- Fully controllable by software via I2C - Bus
- Temperature and battery voltage sensors
- Interrupt channels for peripherals
- System debug mode
- VQFN 48 package with heat sink and non-protruding leads
- Compatible with the Infineon E-GOLD+ V2 and V3

3. BB CIRCUIT TECHNICAL BRIEF

SM-POWER is a further step on the successful E-Power product line with enhanced and optimized functionality.

SM-POWER features a baseband supply concept with a DC/DC step-down converter cascaded by two linear regulators

- SM-POWER's DC/DC converter makes up to 40 % reduction of battery current for smart phone functions (e.g. organizer functions, games, MP3 decoding) possible.
- SDBB has high efficiency up to 95% and also a power save mode.
- Memory Interface is directly supported by the SDBB
- SDBB can also act as main supply voltage for E-GOLD+ or S-GOLDlite baseband devices.
- For S-GOLD two linear regulators for DSP and Core are cascaded after the SDBB.

SM-POWER supports the standby power-down concept of S-GOLD by temporarily switching off the linear regulator for the DSP during mobile standby whenever this subsystem is not used. In this phase the ARM controller and most peripherals including parts of the on-chip SRAM are kept powered-up with power being supplied by the other linear regulator.

SM-POWER includes a fully differential audio amplifier able to drive loads down to a nominal value of 8 Ohm for usage in hands-free phones and for ringing

- 450 mW maximum output power
- adjustable gain
- mute switch
- SM-POWER also integrates a charging function for Li-Ion, Li-Polymer batteries
- click and pop -protection
- SM-POWER also integrates a charging function for Li-Ion, Li-Polymer batteries
- Precharge current source with two current levels
- Constant current / constant voltage charging with 3 different termination voltages
- Programable charge current limitation for use with different batteries
- Freely programable pulse charging to reduce the thermal power dissipation in the constant voltage charging phase
- Top-off charge current sensing
- SM-POWER completes the USB interface of S-GOLD
- Regulated voltage for S-GOLD USB interface including reverse current and overvoltage protection
- Switch to supply USB pull-up resistor
- Mini-host pull down resistor functionality
- Charge pump with internal switching capacitor for USB host VBUS supply voltage
- SM-POWER fully supports LED and Vibra Motor functionality
- no external components needed
- driver for backlight LEDs adjustable in steps up to 140mA and with soft turn on and off by PWM dimming

3. BB CIRCUIT TECHNICAL BRIEF

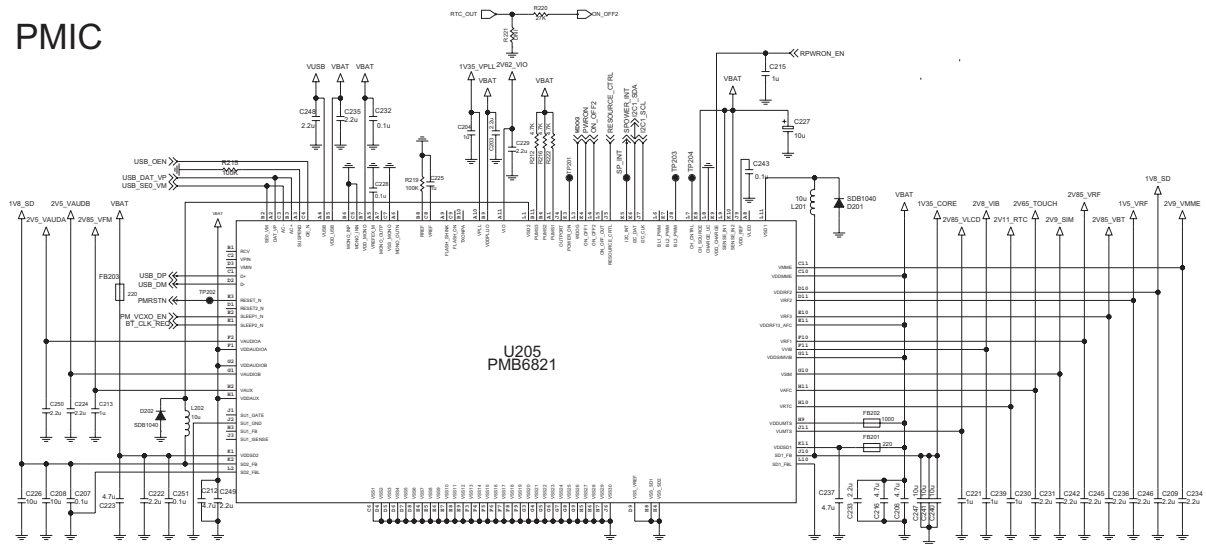
- two driver outputs for single LEDs for precharge indication and signaling with i.e. change of colour
- driver for Vibra Motor with adjustable voltages, soft startup / shutdown and current limitation SMPOWER offers several control functions
- Power-on Reset Generator with logic state machine
- I2C bus interface
- I2C bus configurable mode control logic with ON (push-button or RTC), VCXOEN and LRF3EN (wake-up by Bluetooth) inputs
- Programable interrupt channels to handle peripherals like SIM, MMC and USB
- Monitoring of charging functions
- Undervoltage Shut-Down
- Errorflags (volatile or non-volatile) from many power-supply functions and thermal sensor in order to debug system
- Overtemperature Shut-Down
- Overtemperature Warning
- Support of S-GOLD standby power-down concept
- Support of S-GOLD Power-Down Pad Tristate Function

3. BB CIRCUIT TECHNICAL BRIEF

[Table 3.3.1-1] LDO Output Table of SM-Power3

LDO	Net name	Output Voltage	Output Current	Usage
SD1	1V35_Core	1.35V	600mA	Core & for LDO
SD2	1V8_SD	1.8V	400mA	Memory
VAUX	2V85_VFM	2.85V	100mA	RF transceiver
VIO	2V62_VIO	2.62V	100mA	Peripherals
VSIM	2V9_SIM	2.9V	70mA	SIM card
VMME	2V8_VMME	2.9V	150mA	u-SD
VUMTS	2V85_VLCD	2.85V	110mA	LCD
VAUDIOa	2V5_VAUDA	2.5V	200mA	Stereo headset, Mono earpiece
VAUDIOb	2V5_VAUDB	2.5V	50mA	Analog parts of S-Gold
VRF1	2V85_VRF	2.85V	150mA	2.85 V supply for SMARTi-PM RF transceiver
VRF2	1V5_VRF	1,53V	100mA	1.5 V supply for SMARTi-PM RF transceiver
VRF3	2V85_VBT	2.7V	150mA	Not used
VPLL	1V35_VPLL	1.35V	30mA	S-GOLD3H PLL
VRTC	2V11_RTC	2.11V	4mA	Real Time Clock
VAFC	2V7_VRF	2.65V	5mA	Not used
VVIB	2V8_VIB	2.8V	140mA	MOTOR DR IC

PMIC



[Figure3.3.1-1] SM-Power 3 Circuit Diagram

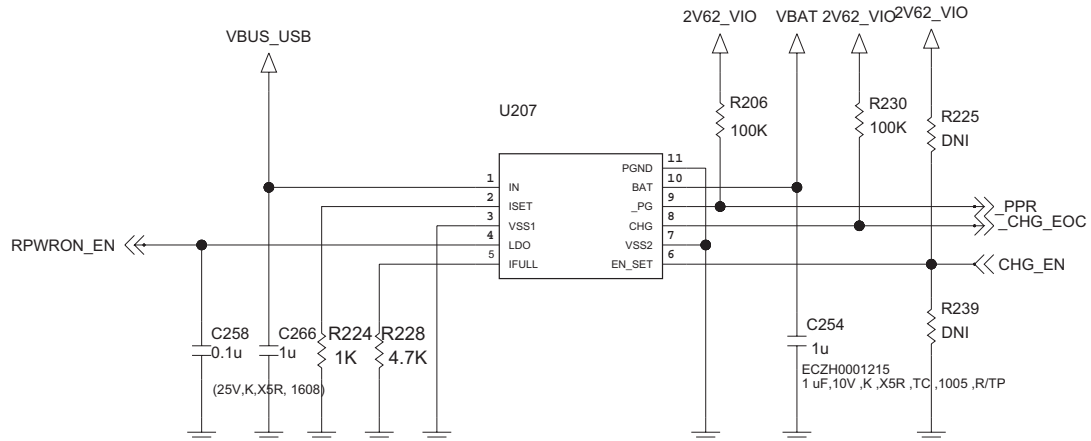
3. BB CIRCUIT TECHNICAL BRIEF

3.3.2 Charging control

- GS500 uses external charging IC which is BQ25040.

1. Charging method : CC-CV
2. Charger output voltage
 - VBAT : 4.2 V
 - VLDO : 4.9 V
3. Charging time : 2h 30m
4. Charging current : 530 mA
5. CV voltage : 4.2 V
6. Cutoff current : 124.55mA
7. Full charge indication current (icon stop current) : 124.55mA
8. Recharge voltage : 4.15 V
9. Low battery alarm
 - a. Idle : 3.35 V ~ 3.58 V
 - b. Dedicated : 3.35 V ~ 3.58 V
10. Low battery alarm interval
 - a. Idle : 3 min
 - b. Called : 1 min
11. Switch-off voltage : 3.35 V
12. Charging temperature adc range
 - a. ~ -20°C : low charging voltage operation (3.6 V ~ 3.9 V) .
 - b. -20°C ~ 60°C : standard charging (up to 4.2 V)
 - c. 60°C ~ : low charging voltage operation (3.6V ~ 3.9V)

CHARGING IC

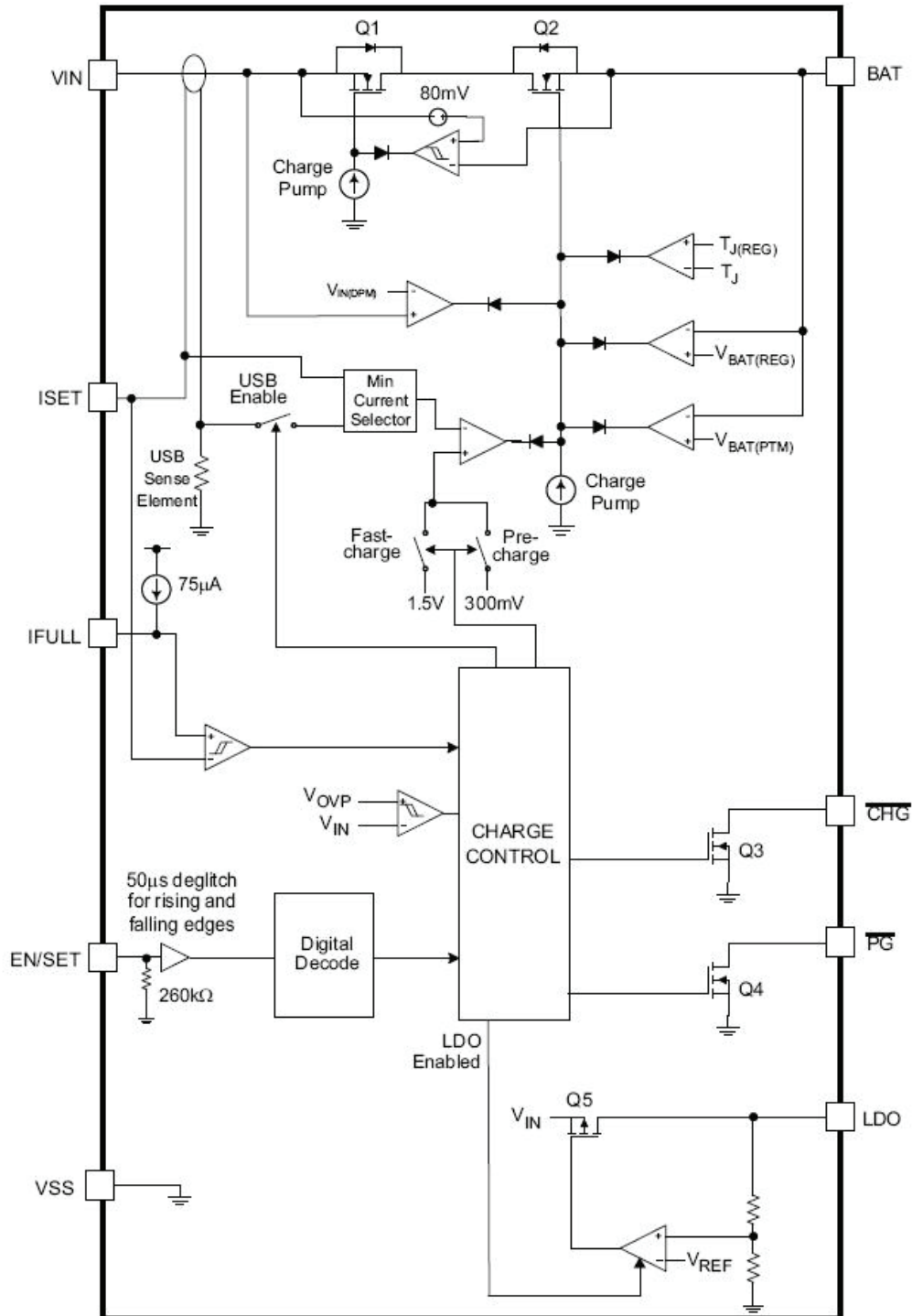


[Figure 3.3.2-1] Charging IC (BQ25040DQCR)

PIN		I/O	DESCRIPTION
NAME	NO.		
IN	1	I	Input power supply. IN is connected to the external dc supply (ac adapter or USB port). Bypass IN to VSS with at least a 1μF ceramic capacitor.
ISET	2	I	Current programming input. Connect a resistor from ISET to VSS to program the fast-charge current when the user programmable mode is selected by EN/SET. If the current limit set by ISET is lower than the USB500 limit, the current is limited by the ISET setting even in USB500 mode. The resistor range is between 475Ω and 5.36kΩ to set the current between 100 mA and 1.1 A.
VSS	3, 7	—	Ground terminal. Connect to the thermal pad and the ground plane of the circuit.
LDO	4	O	LDO output. LDO is regulated to 4.9V and drives up to 50mA. Bypass LDO to VSS with at least a 1μF ceramic capacitor. LDO is enabled when VIN is above the UVLO and less than V _{OVP} . The LDO current is not limited by the input current limit.
IFULL	5	I	Charge done current programming input. Connect a resistor from IFULL to VSS to program the charge done threshold. The CHG output goes high-impedance when I _{BAT} falls to the charge done threshold. The charge done threshold is programmable from 5% to 50% of the fast charge current programmed at ISET.
EN/SET	6	I	One-wire Interface Input. Drive EN/SET with pulses to enable/disable the device and select different modes. See Table 1 for the data map. EN/SET is pulled to VSS with an internal ~260kΩ resistor.
CHG	8	O	Charge done indicator open-drain output. CHG is pulled low while the device is charging the battery. CHG goes high impedance when the battery is fully charged and does not indicate subsequent recharge cycles. CHG is high impedance during fault conditions.
PG	9	O	Power good open-drain output. PG is an open-drain output that pulls to VSS when the input power is above the battery voltage by 80mV and below the OVP threshold. PG is high impedance when outside this range.
BAT	10	O	Battery connection output. Connect the battery and the system input to BAT. Bypass BAT to VSS with at least a 1μF ceramic capacitor. If no battery is installed, the capacitance on the BAT line must be at least 40μF. In Production Test Mode, BAT regulates to 4.2V and supplies up to 2.3A.
Thermal PAD	Pad	—	There is an internal electrical connection between the exposed thermal pad and the VSS pin of the device. The thermal pad must be connected to the same potential as the VSS pin on the printed circuit board. Do not use the thermal pad as the primary ground input for the device. VSS pin must be connected to ground at all times.

[Table 3.3.2-1] PIN description of Charging IC

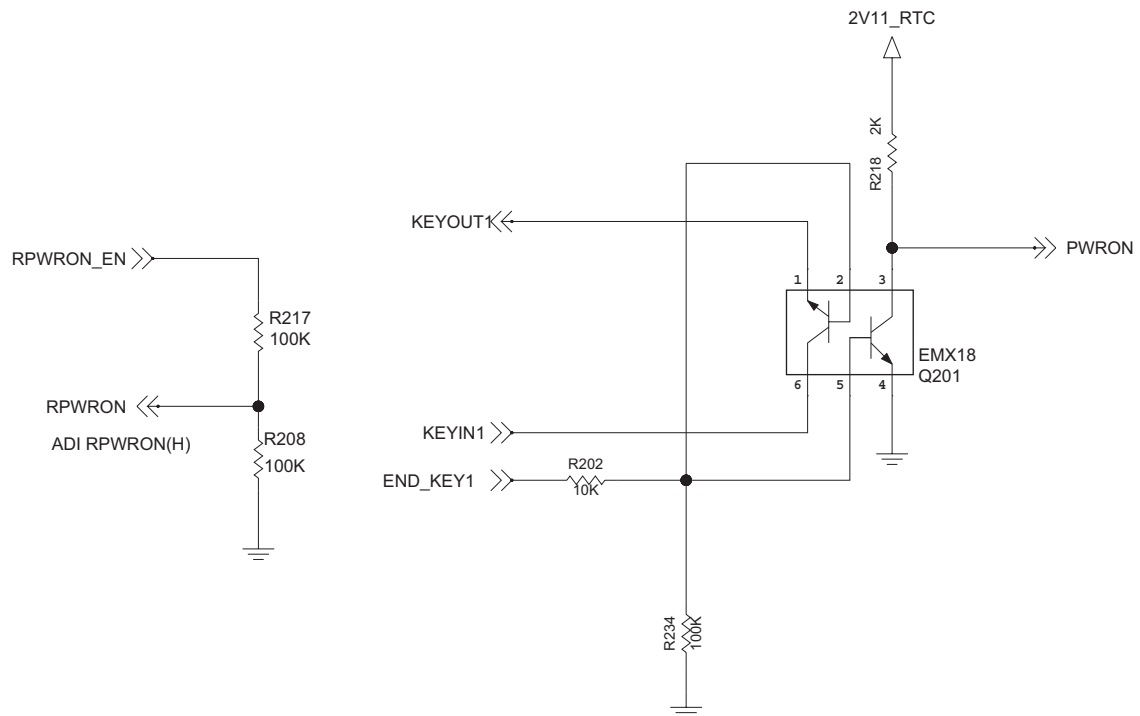
3. BB CIRCUIT TECHNICAL BRIEF



[Figure 3.3.2-1] Block diagram of Charging IC

3.4 Power ON/OFF

END KEY CIRCUIT



[Figure 3.4-1] Remote power on and End-key power on circuit

Voltage level of PWRON pin is high before push the END_KEY button.

If push the END_KEY button, voltage level of PWRON pin is change from high to low.

ON_OFF1 is a power-on input for SM-POWER3 with active low levels.

3. BB CIRCUIT TECHNICAL BRIEF

3.5 SIM Interface

GS500 supports 1.8V & 2.9V plug in SIM. SIM_IO, SIM_CLK, SIM_RST ports are used to communicate with S-Gold3H and the SIM power supply enabled by PMIC.

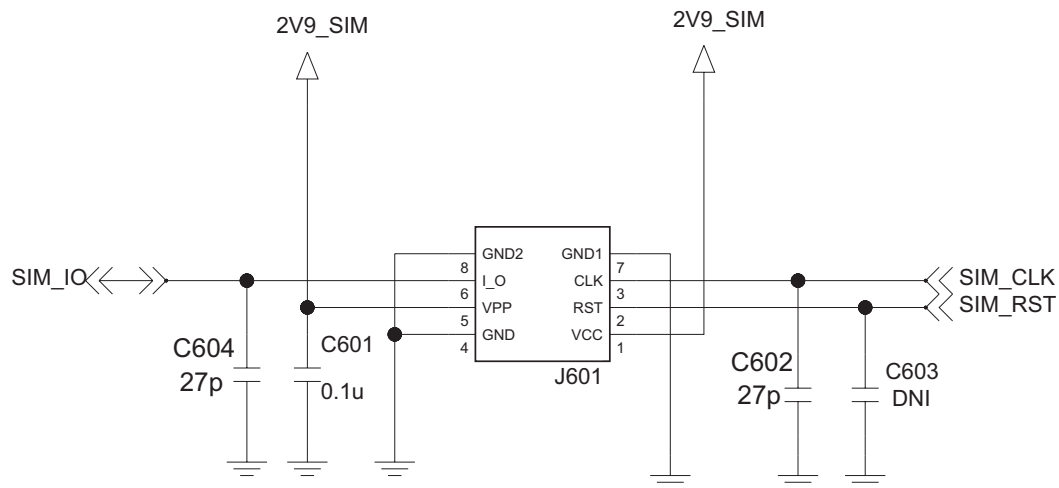
SIM Interface

SIM_CLK : SIM card reference clock

SIM_RST : SIM card Async /sync reset

SIM_IO : SIM card bidirectional reset

SIM SOCKET



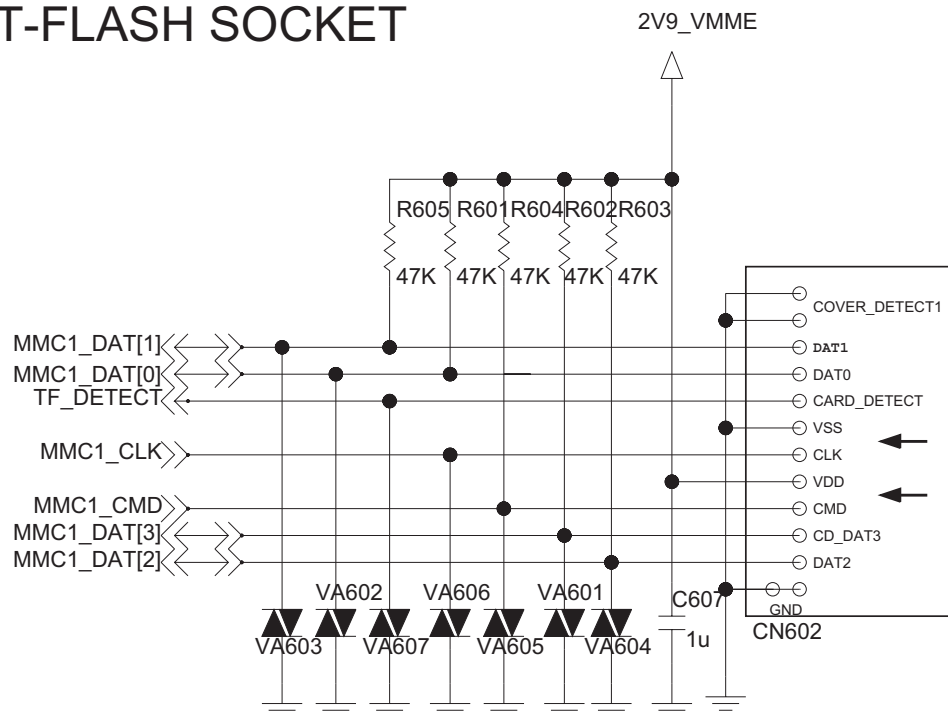
[Figure 3.5-1] SIM Circuit

3.6 T - Flash connector

The Micro SD Memory Module has eight exposed contacts on one side.

The PMB8878 connected to the module using a dedicated eight-pin connector

T-FLASH SOCKET

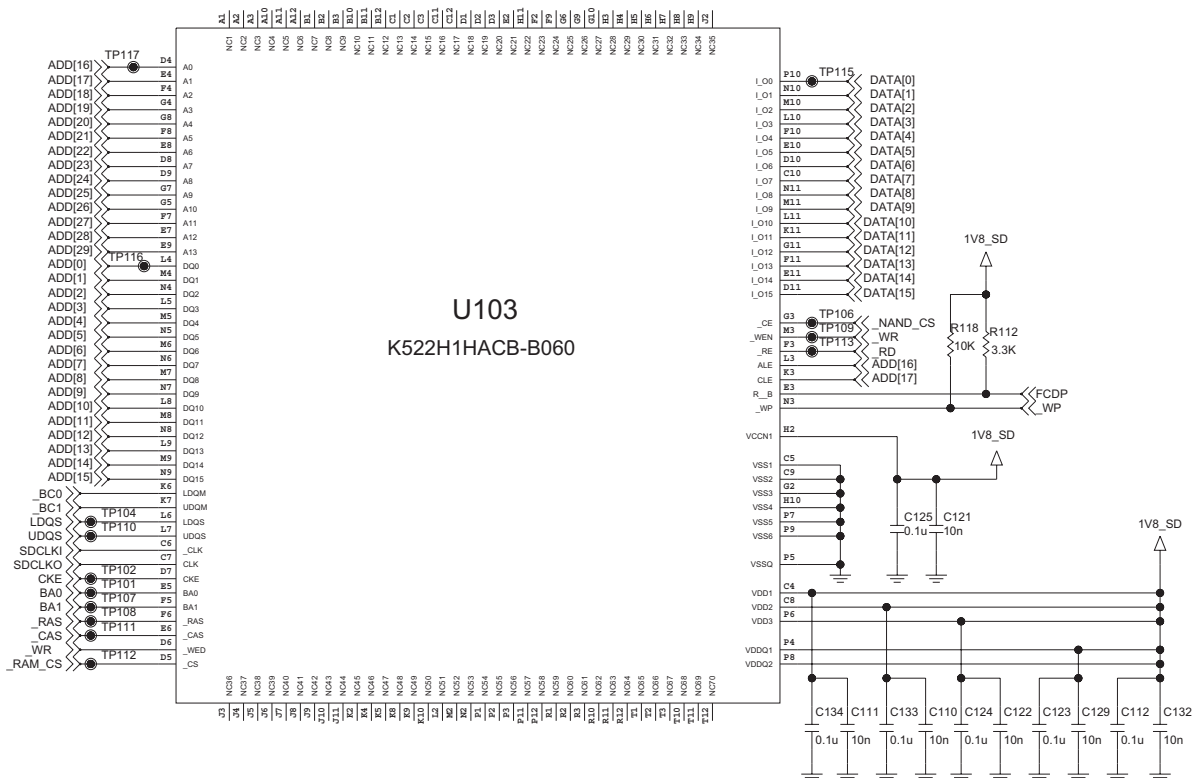


[Figure 3.6-1] T-Flash Connector

3. BB CIRCUIT TECHNICAL BRIEF

3.7 Memory

2Gbit NAND & 1Gbit DDRSDRAM employed on GS500 with 8 & 16 bit parallel data bus thru ADD(0) ~ ADD(29). The 2Gbit NAND Flash memory with DDR SDRAM stacked device family offers multiple high-performance solutions.

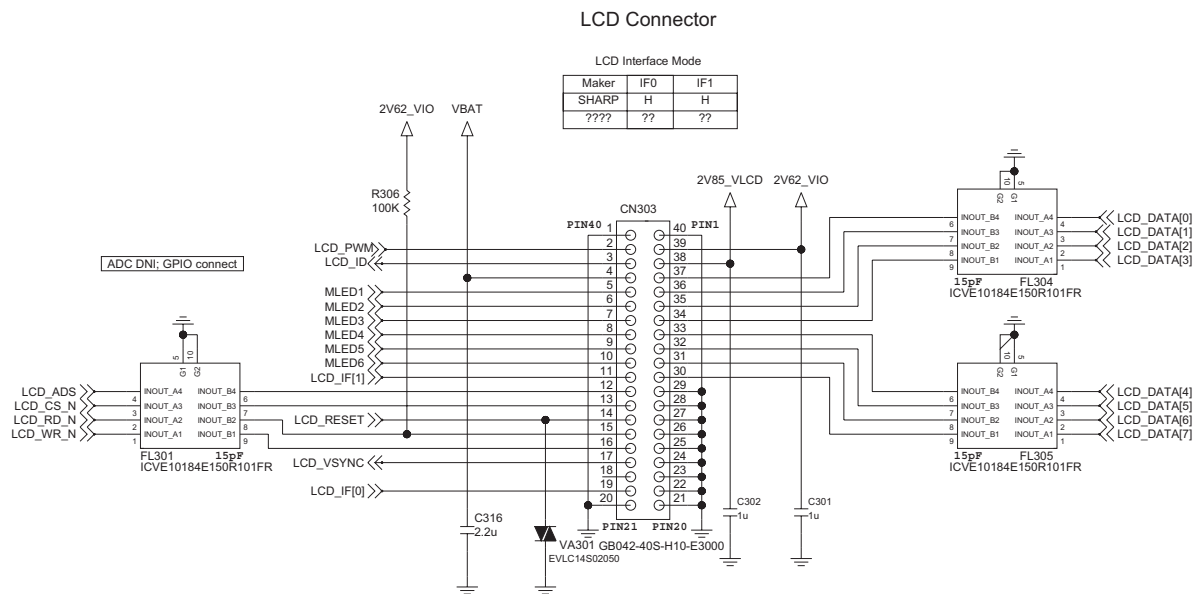


[Figure 3.7-1] Memory circuit diagram

3.8 LCD Display

LCD module include:

- Main LCD: 3.0" 240x400 WQVGA, 262K color TFT
- Backlight : 6 piece of white LED



[Figure3.8-1] LCD circuit diagram

3. BB CIRCUIT TECHNICAL BRIEF

3.9 LCD back-light illumination

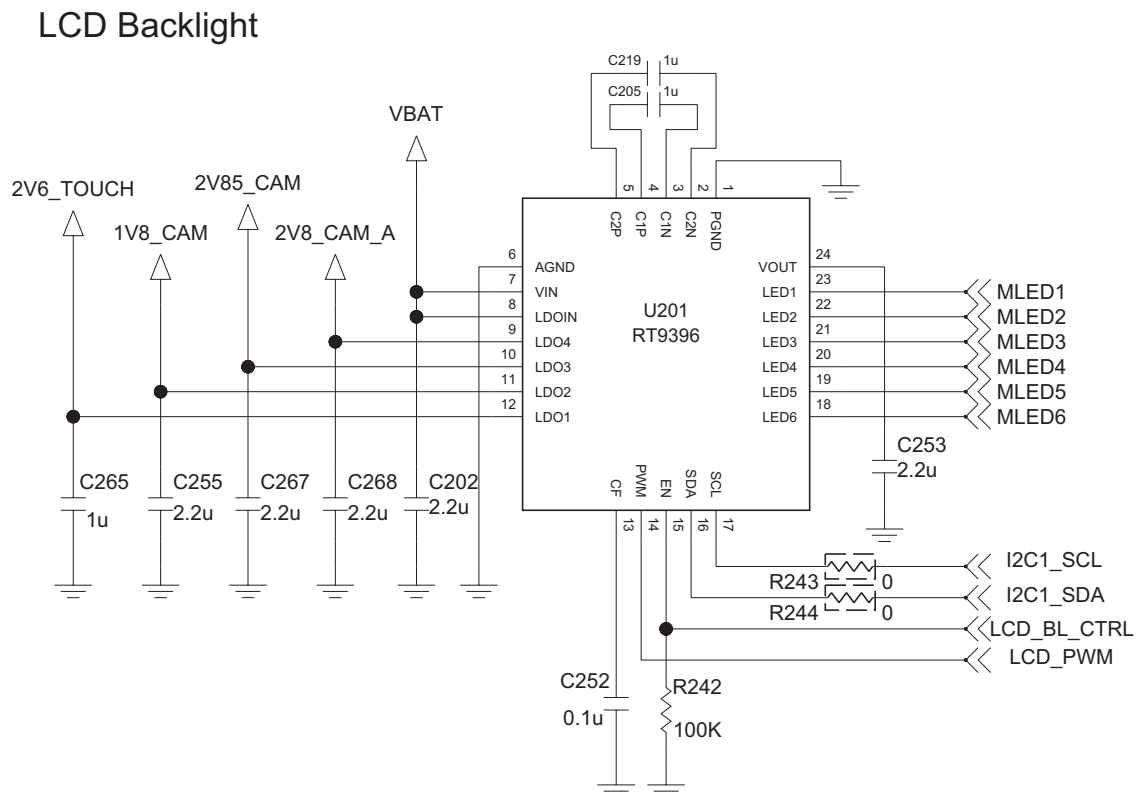
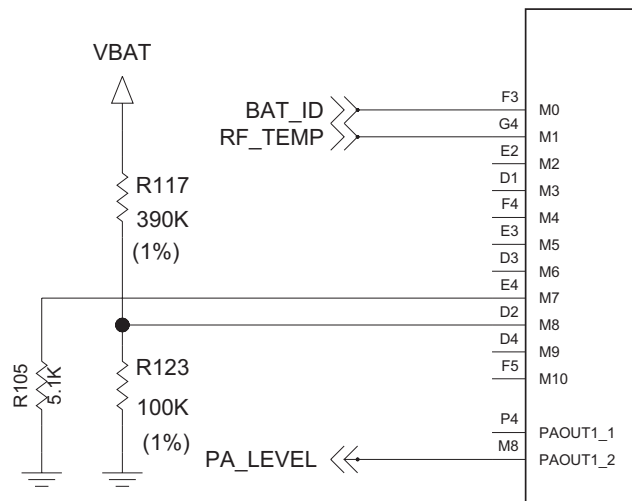


Figure 12 LCD Back light unit and Flash LED charge pump IC

The RT9396 is a write-only single wire interface. It provides access to up to 32 registers that control device functionality. In this system, two sets of pulse trains are transmitted via the SPIF pin. The first pulse set is used to set the desired address. After the bus is held high for the address hold period, the next pulse set is used to write the data value. After the data pulses are transmitted the bus is held high again for the data hold period to signify the data write is complete. At this point the slave device latches the data into the address that was selected by the first set of pulses. The protocol for using this interface is described in the following subsection.

3.10 Battery voltage monitor

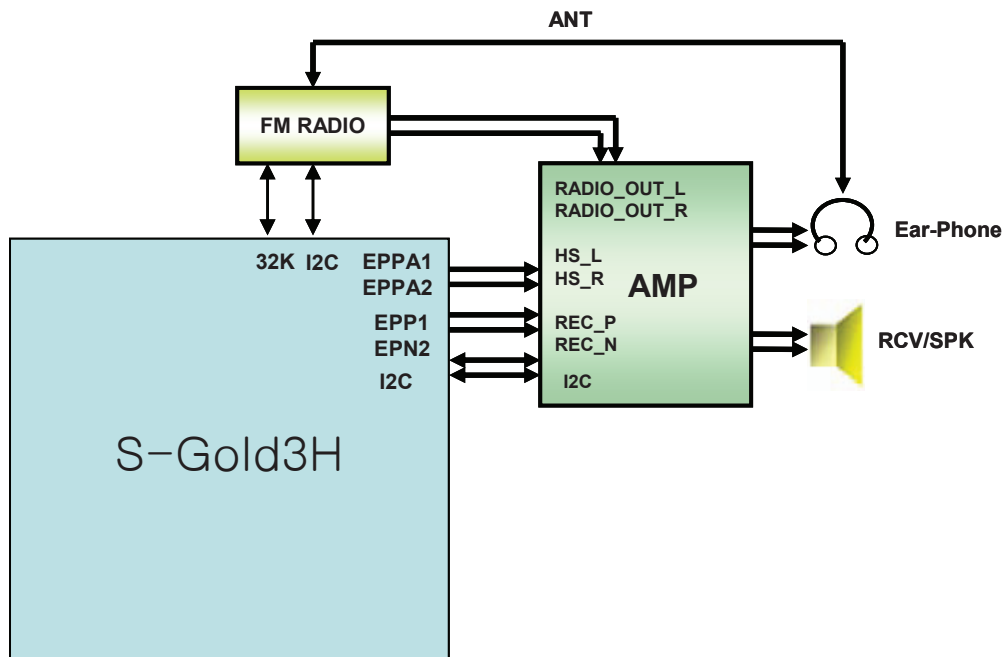
S-Gold3H(PMB8878) is monitor battery capacity with ADC port.



[Figure3.12-1] Battery voltage monitor circuit diagram

3.11 Audio

GS500 Audio signal flow diagram as following diagram.



[Figure 3.13-1] Audio signal flow diagram

3. BB CIRCUIT TECHNICAL BRIEF

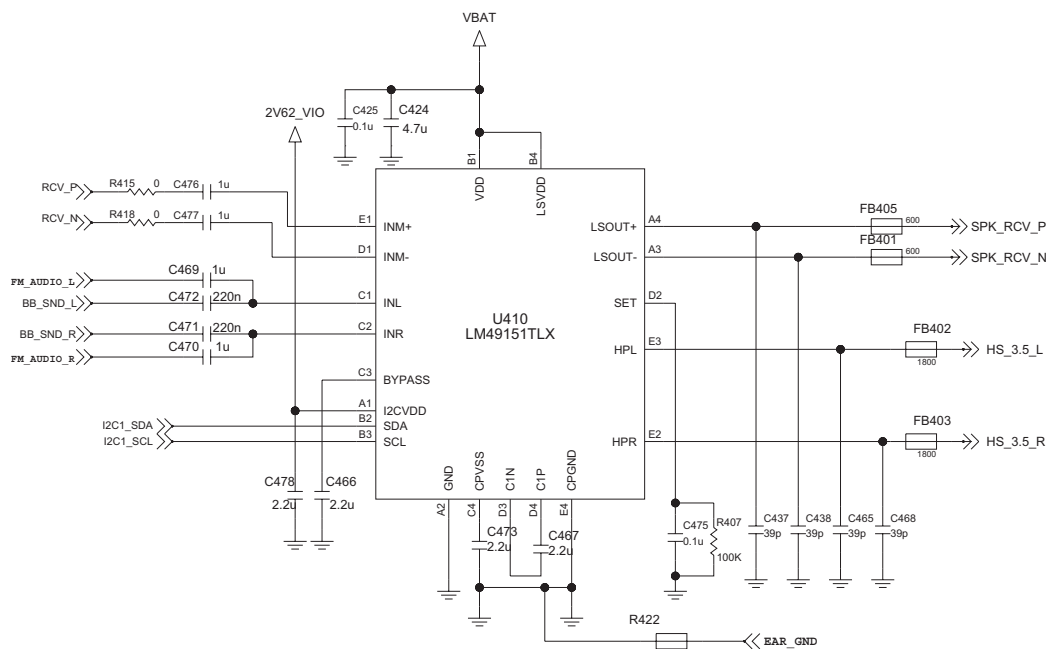
3.11.1 Audio amplifier

GS500 use external AMP(LM49151TLX).

LM49151TLX combines a high efficiency Class D audio power amplifier with a stereo Class AB capacitor-less Direct Drive headphone amplifier.

LM49151TLX delivers up to 725mW from a 3.7V supply into an 8ohm load with 87% efficiency to extend battery life.

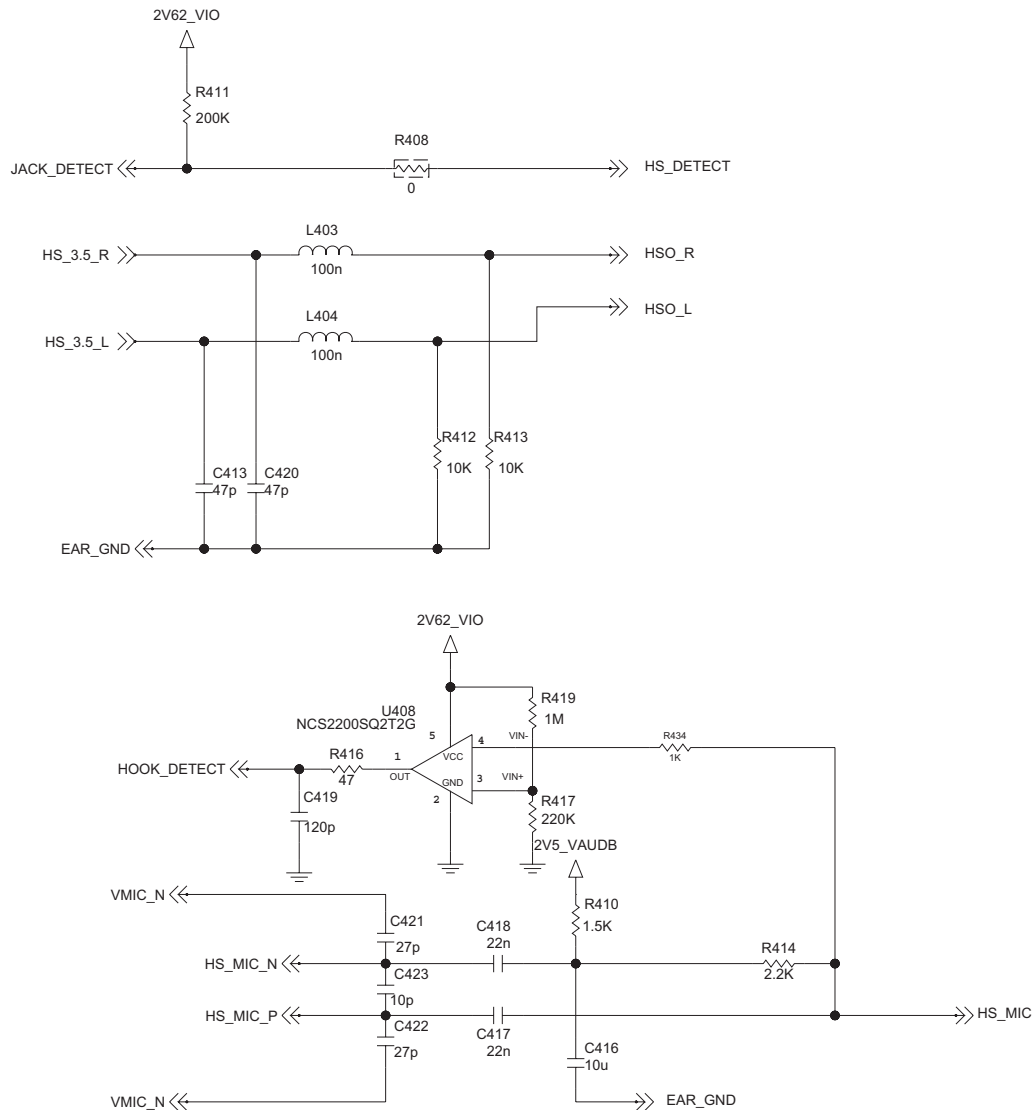
AUDIO AMP SUB SYSTEM & SIGNAL DISTRIBUTOR



[Figure 3.13.1-1] Audio circuit diagram

3.11.2 Headset circuit

3.5phi HEADSET



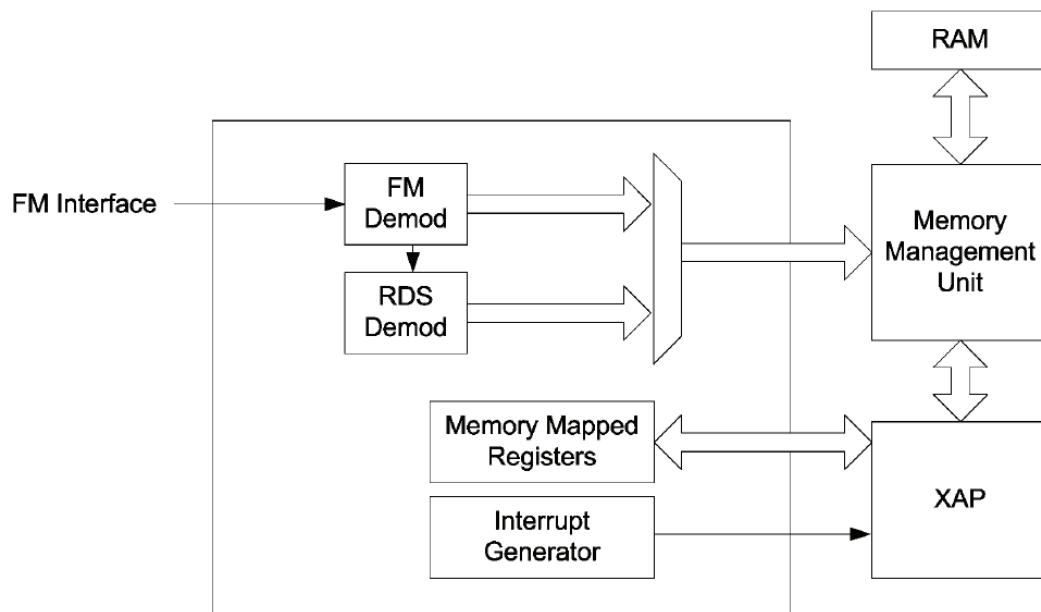
[Figure 3.13.3-1] Headset circuit diagram

3.12.2 FM Radio

The FM receiver fully supports reception over US/European (87.5 to 108MHz) and Japanese (76 to 90MHz) FM bands with an antenna impedance of 50Ω. The FM receiver comprises an RF receiver with fully integrated VCO, a stereo FM demodulator and an RDS/RBDS demodulator.

The FM and RDS demodulators are implemented using digital processing. This provides excellent sensitivity, selectivity and audio quality. All the trims required by the FM demodulator are automatic, and its relevant parameters are programmable. The FM receiver incorporates signal strength-dependent stereo blend and soft mute to preserve audio quality infading conditions. The FM receiver also includes special proprietary processing to reject interference. This allows for good quality reception of FM channels that would otherwise be corrupted due to pick-up of interference.

The FM receiver is controlled over the UART HCI interface..



[Figure 3.14.3] FM Radio system architecture.

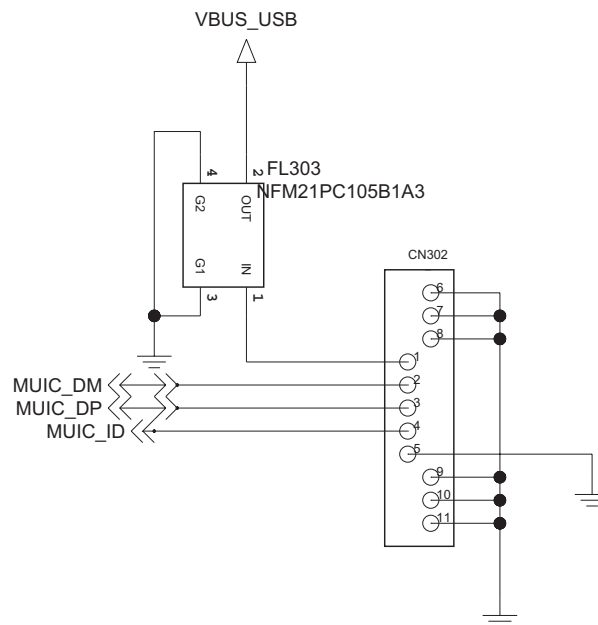
3. BB CIRCUIT TECHNICAL BRIEF

3.13 5PIN Interface connector

[Table 3.15-1] PIN assign

	GS500 MMI	
	Pin Function	Description
1	V_BUS	Charger voltage
2	USW_DM	USB/ Remote control Key ADC/ Headset left sound
3	USW_DP	USB/ Remote control interrupt/ Headset Right sound
4	USW_ID	
5~15	GND	Power GND

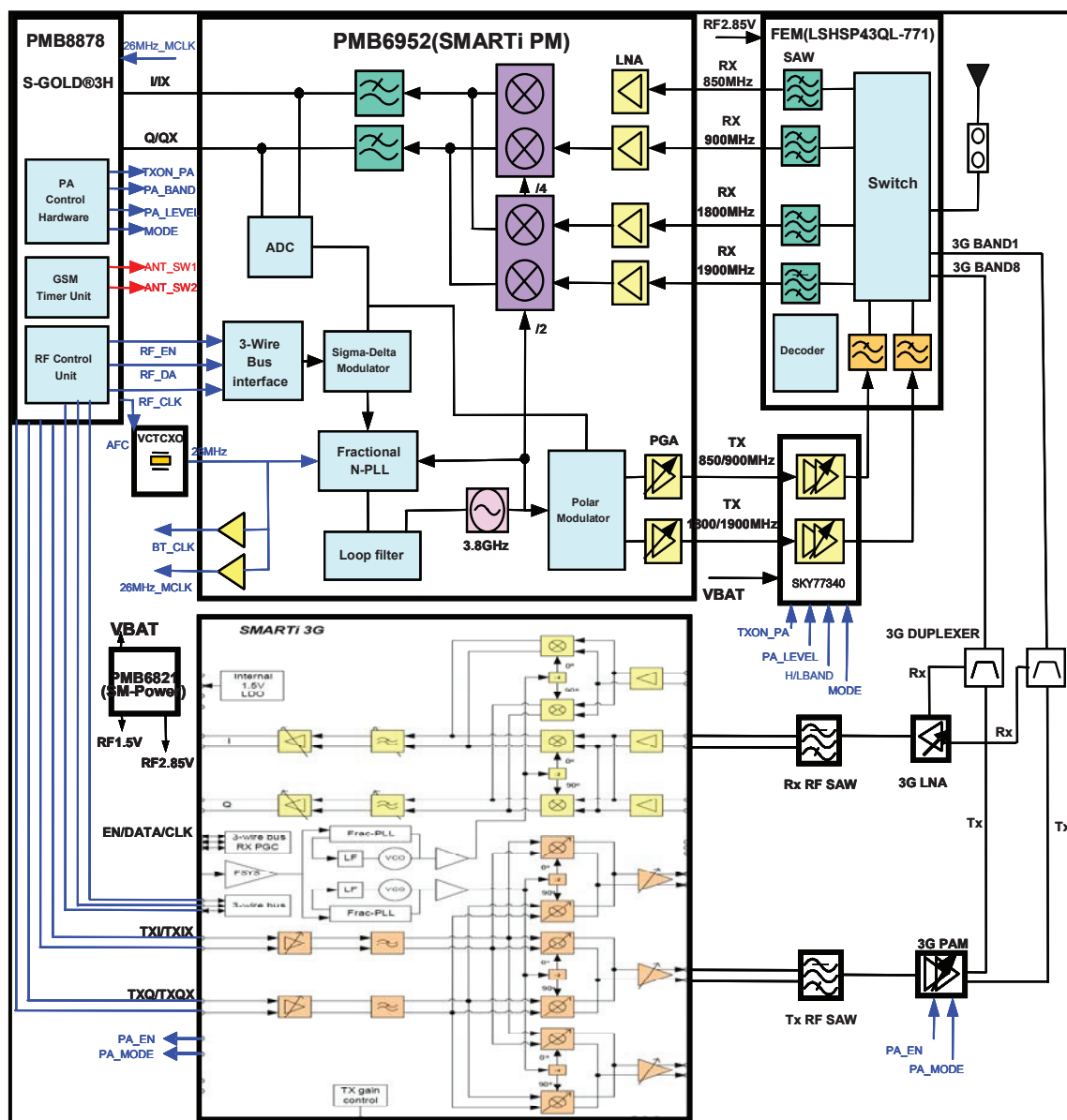
Micro-USB Connector
(USB & UART & TA)



4. RF CIRCUIT TECHNICAL BRIEF

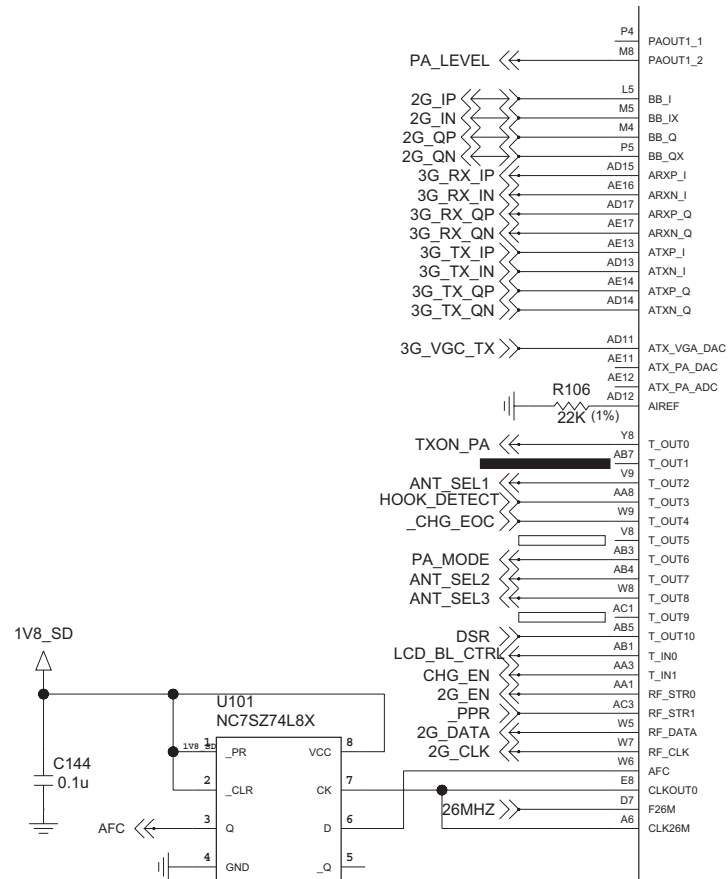
4.1 General Description

The PMB 6952 SMARTi 3GE combines the SMARTiPM quad-band GSM/EDGE and SMARTi3G triple-band W-CDMA transceivers in a laminate based PG-TFSGA-121-2 package. A significant circuit board area reduction is achieved compared to using separately packaged transceivers. SMARTiPM is a quad-band transceiver for GSM850/GSM900/ GSM1800/GSM1900 voice and data applications. SMARTiPM features a direct conversion receiver and a quad-band polar modulator transmitter for



[Figure 4.1-1] Block Diagram of RF part

4. RF CIRCUIT TECHNICAL BRIEF

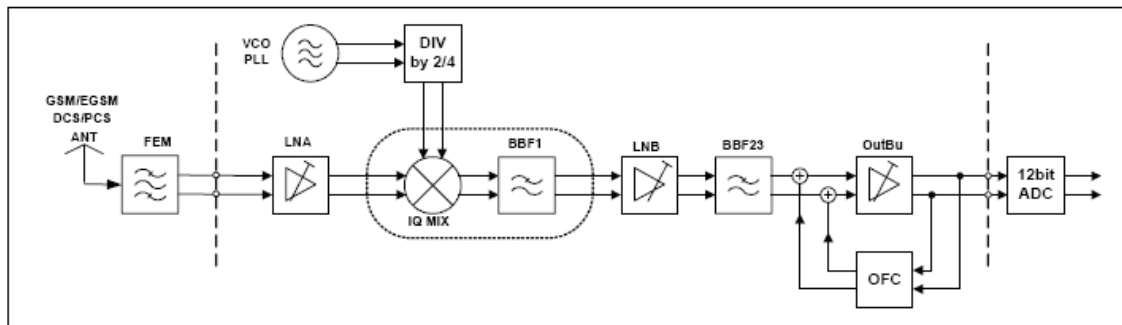


[Figure 4.1-3] Schematic of RF Control Signals

4. RF CIRCUIT TECHNICAL BRIEF

4.2 GSM Part

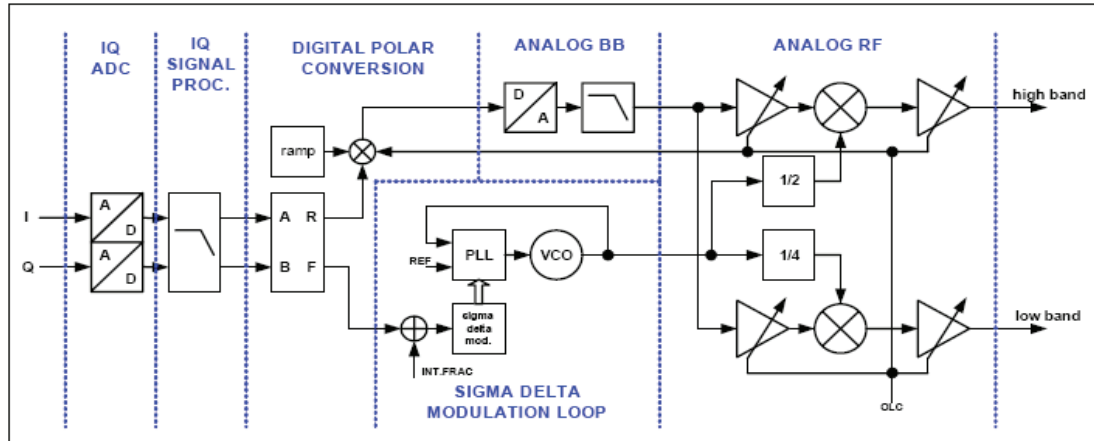
4.2.1 GSM Receiver



[Figure 4.2.1-1] GSM Receiver Part Block Diagram

The constant gain direct conversion receiver contains all active circuits for a complete receiver chain for GSM/GPRS/EDGE (see [Figure 4.2.1-1]). The GSM850/900/DCS1800/ PCS1900 LNAs with balanced inputs are fully integrated. No interstage filtering is needed. The orthogonal LO signals are generated by a divider-by-four for GSM850/900 band and a divider-by-two for the DCS1800/PCS1900 band. Down conversion to baseband domain is performed by low/high band quadrature direct down conversion mixers. The baseband chain contains a LNB (low noise buffer), channel filter, output buffer and DC-offset compensation. The 3rd order lowpass filter is fully integrated and provides sufficient suppression of blocking signals as well as adjacent channel interferers and avoids anti-aliasing through the baseband ADC. The receive path is fully differential to suppress on-chip interferences. Several gain steps are implemented to cope with the dynamic range of the input signals. Depending on the baseband ADC dynamic range, single- or multiple gain step switching schemes are applicable. Furthermore an automatic DC-offset compensation can be used (depending on the gain setting) to reduce the DC-offset at baseband-output. A programmable gain correction can be applied to correct for front end- and receiver gain tolerances.

4.2.2 GSM Transmitter



[Figure 4.2.2-1] GSM Transmitter Part Block Diagram

The GMSK transmitter supports power class 4 for GSM850 and GSM900 as well as power class 1 for DCS1800 and PCS1900. The digital transmitter architecture is based on a very low power fractional-N Sigma-Delta synthesizer without any external components (see [Figure 4.2.2-1]). The analog I/Q modulation data from the baseband is converted to digital, filtered and transformed to polar coordinates. The phase/frequency signal is further on processed by the Sigma-Delta modulation loop. The output of its associated VCO is divided by four or two, respectively, and connected via an output buffer to the appropriate single ended output pin. This configuration ensures minimum noise level.

The 8PSK transmitter supports power class E2 for GSM850 and GSM900 as well as for DCS1800 and PCS1900. The digital transmitter architecture is based on a polar modulation architecture, where the analog modulation data (rectangular I/Q coordinates) is converted to digital data stream and is subsequently transformed to polar coordinates by means of a CORDIC algorithm. The resulting amplitude information is fed into a digital multiplier for power ramping and level control. The ready processed amplitude signal is applied to a DAC followed by a low pass filter which reconstructs the analog amplitude information. The phase signal from the CORDIC is applied to the Sigma-Delta fractional-N modulation loop. The divided output of its associated VCO is fed to a highly linear amplitude modulator, recombining amplitude and phase information. The output of the amplitude modulator is connected to a single ended output RF PGA for digitally setting the wanted transmit power.

The PA interface of SMARTi 3GE supports direct control of standard dual mode power amplifiers (PA's) which usually have a power control input VAPC and an optional bias control pin VBIAS for efficiency enhancement. In GMSK mode, the PA is in saturated high efficiency mode and is controlled via its VAPC pin directly by the baseband ramping DAC. In this way both up- / down-ramping and output power level are set. In 8PSK mode, the ramping functionality is assured by an on-chip ramping generator, whereas output power is controlled by the PGA's as described above.

4. RF CIRCUIT TECHNICAL BRIEF

4.2.3 GSM RF Synthesizer

The SMARTi 3GE contains a fractional-N sigma-delta synthesizer for the frequency synthesis in the RX operation mode. For TX operation mode the fractional-N sigma-delta synthesizer is used as Sigma-Delta modulation loop to process the phase/frequency signal. The 26MHz reference signal is provided by the internal crystal oscillator. This frequency serves as comparison frequency of the phase detector and as clock frequency for all digital circuitry.

The divider in the feedback path of the synthesizer is carried out as a multi-modulus divider (MMD). The loop filter is fully integrated and the loop bandwidth is about 100 kHz to allow the transfer of the phase modulation. The loop bandwidth is automatically adjusted prior to each slot (OLGA²). To overcome the statistical spread of the loopfilter element values an automatic loopfilter adjustment (ALFA) is performed before each synthesizer startup.

The fully integrated quad-band VCO is designed for the four GSM bands (850, 900, 1800, 1900 MHz) and operates at double or four times transmit or receive frequency. To cover the wide frequency range the VCO is automatically aligned by a binary automatic band selection (BABS) before each synthesizer startup.

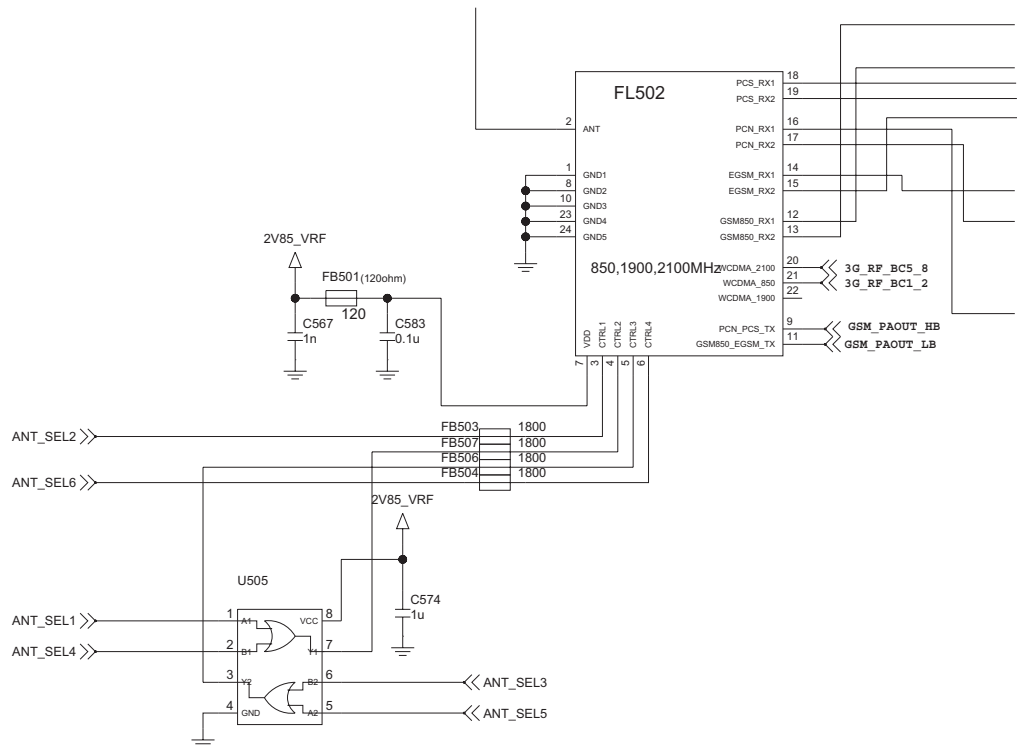
4.2.4 Reference Oscillator

The SMARTi 3GE comprises three 26MHz reference frequency outputs for the GSM baseband, for the 3G RF and for other subsystems (GPS, Bluetooth, etc.) as well as an reference frequency input for application of an external VCXO module.

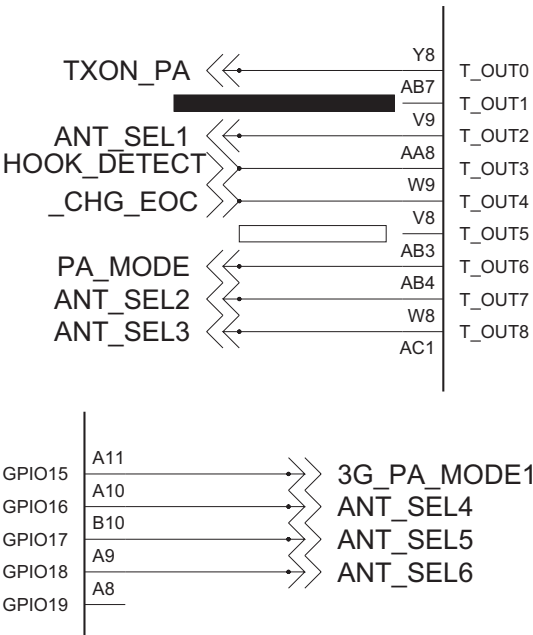
4.2.5 Front End Module Control

Implemented in the SMARTi 3GE are two outputs for direct control of GSM front end modules with two logic input pins to select RX- and TX-mode as well as low- and highband operation.

4. RF CIRCUIT TECHNICAL BRIEF



[Figure 4.2.5-1] GS500 Front End Control (FEM input)



[Figure 4.2.5-2] GS500 Front End Control (Control signal from Baseband IC)

4. RF CIRCUIT TECHNICAL BRIEF

CONTROL LOGIC

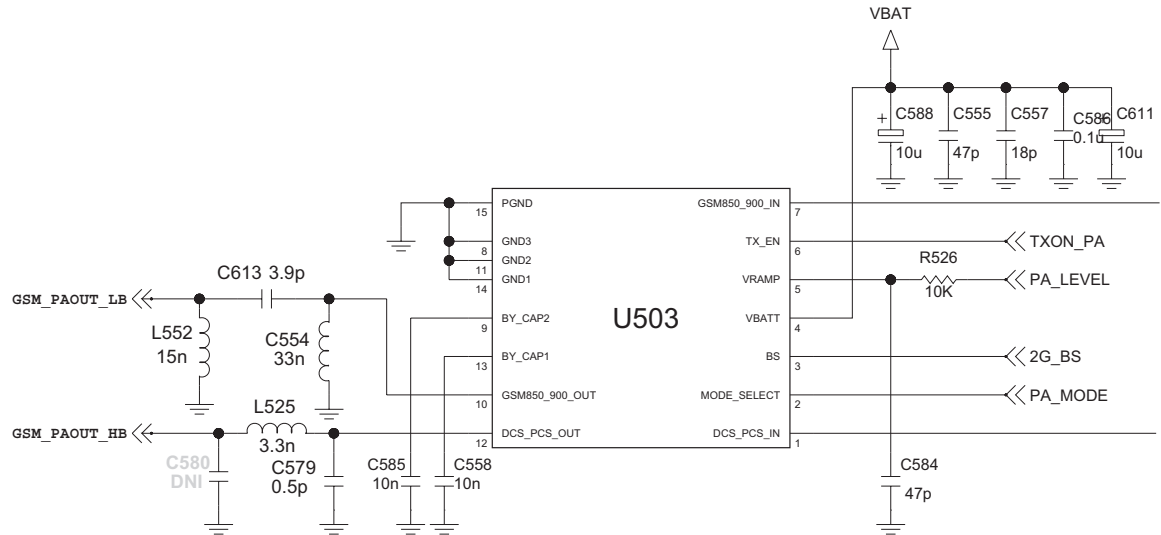
Mode	Vc1	Vc2	Vc3	Vc4	Vdd
GSM850/900 Tx	High	High	Low	Low	2.65-2.85V
GSM1800/1900 Tx	High	Low	Low	Low	2.65-2.85V
GSM850 Rx	Low	High	High	Low	2.65-2.85V
GSM900 Rx	Low	Low	High	Low	2.65-2.85V
GSM1800 Rx	Low	High	Low	Low	2.65-2.85V
GSM1900 Rx	Low	Low	Low	Low	2.65-2.85V
UMTS1	Low	Low	High	High	2.65-2.85V
UMTS2	Low	High	Low	High	2.65-2.85V
UMTS3	Low	Low	Low	High	2.65-2.85V

High : 1.4 - Vdd (V)

Low : 0 - 0.4 (V)

[Figure 4.2.5-3] GS500 Front End Control Logic Table

4.3 GSM Power Amplifier Module



[Figure 4.4-1] Schematic Diagram of 2.5G PAM (TQM7M5005H)

Pin #	Description	Function
1	DCS / PCS in	DCS/PCS RF input -- DC blocked
2	MODE SELECT	MODE = High, the PAM operates in EDGE (8PSK) mode MODE = Low, the PAM operates in GMSK mode.
3	BAND SELECT (BS)	BAND SELECT = Low, Low-Band active BAND SELECT = High, High-Band active
4	VBATT	Battery supply voltage, typ. 3.0 – 4.5 V, nom. 1.6A
5	VRAMP	DAC Control Signal (analog). Nominal Vramp range is 0.2 to 1.6V GMSK mode – Controls ramp profile and output power. EDGE mode – Controls ramp profile
6	TX_EN	TX_EN = High, PA is enabled for operation. TX_EN = Low, PA is in sleep mode
7	GSM850 / 900 in	GSM850 / GSM900 RF input -- DC blocked
10	GSM850 / 900 out	GSM850 / GSM900 RF output -- DC blocked
12	DCS / PCS out	DCS / PCS RF output -- DC blocked
9, 14	Bypass Cap	Connect 0.01uF bypass capacitor as close to pin as practical.
8, 11, 14,	GND	Ground

[Table 4.4-1] TQM7M5005H Pin description

5. TROUBLE SHOOTING

5. TROUBLE SHOOTING

5.1 Trouble shooting test setup

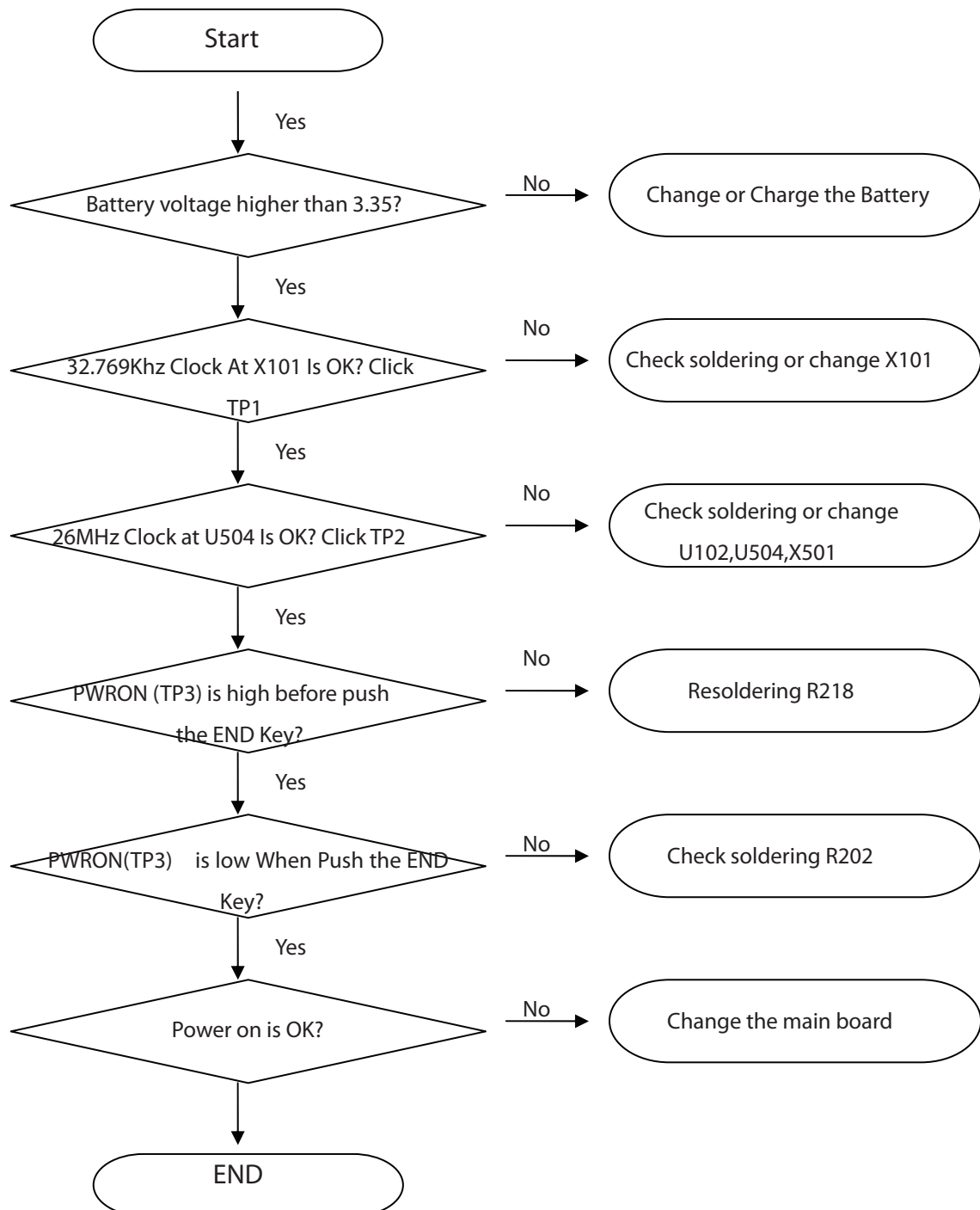


Equipment setup

Power on all of test equipment

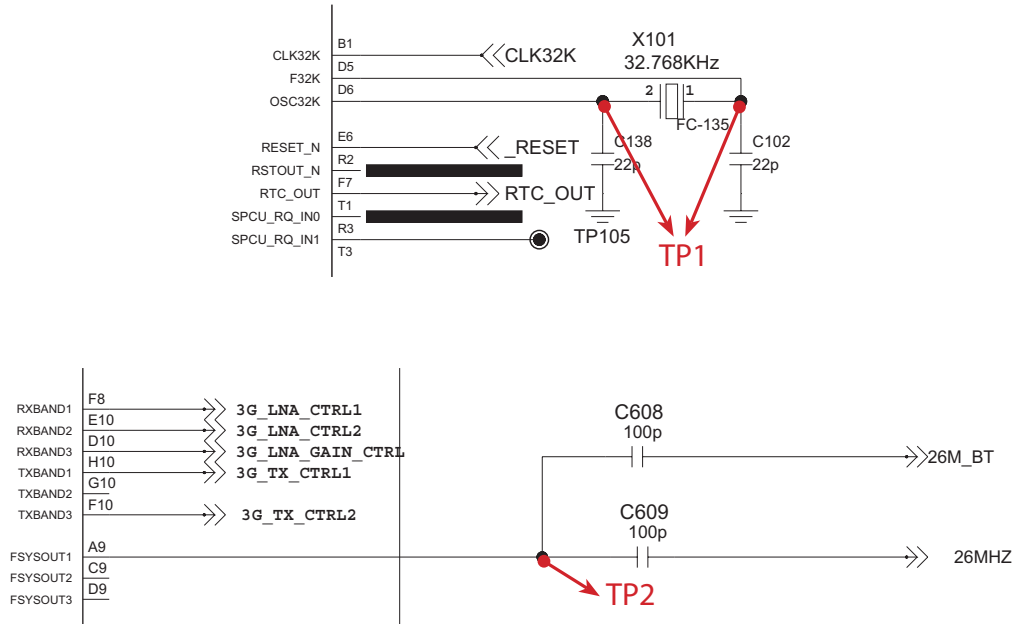
- Connect PIF-UNION JIG or dummy battery to the DUT for power up.
- Connect mobile switch cable between Communication test set and DUT when you need to make a phone call.
- Follow trouble shooting procedure

5.2. Power on trouble

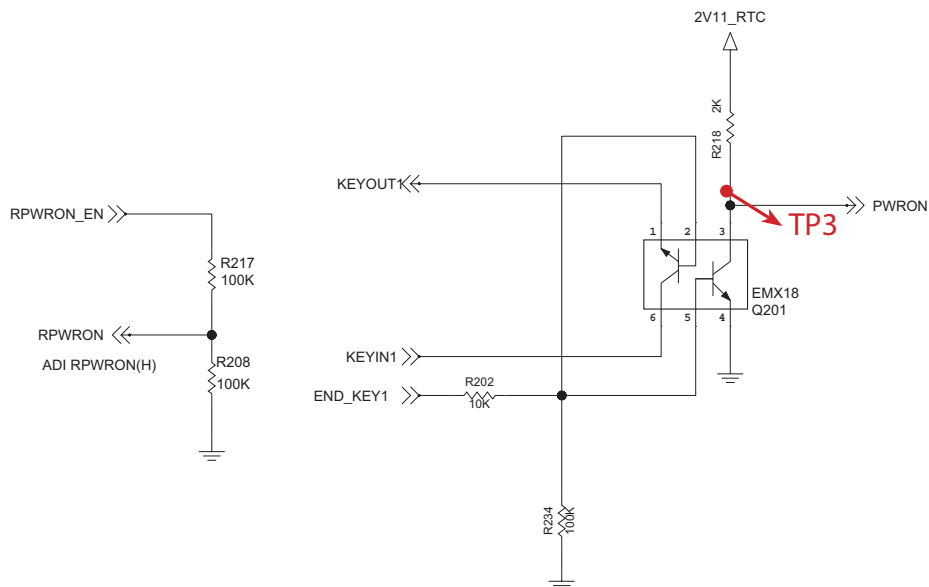


5. TROUBLE SHOOTING

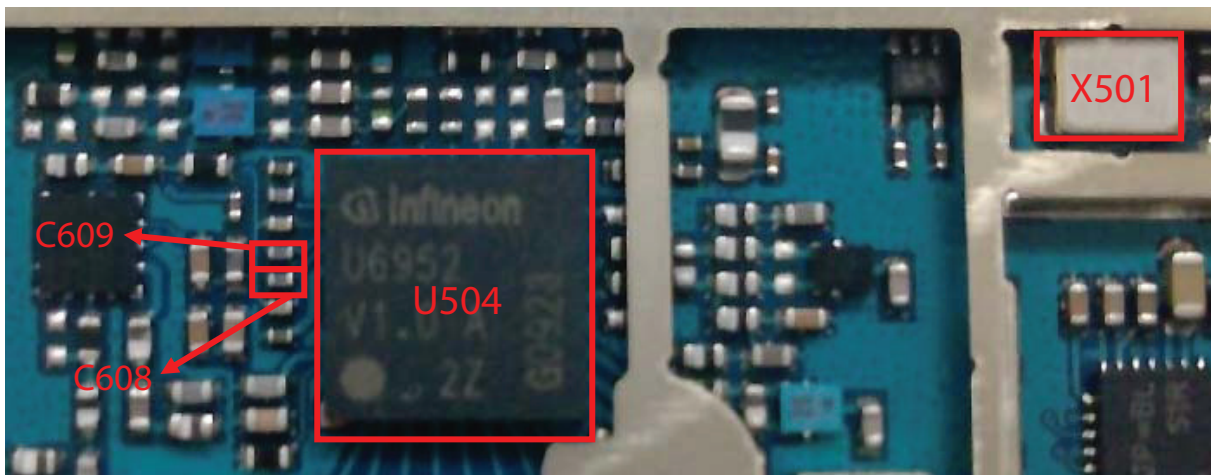
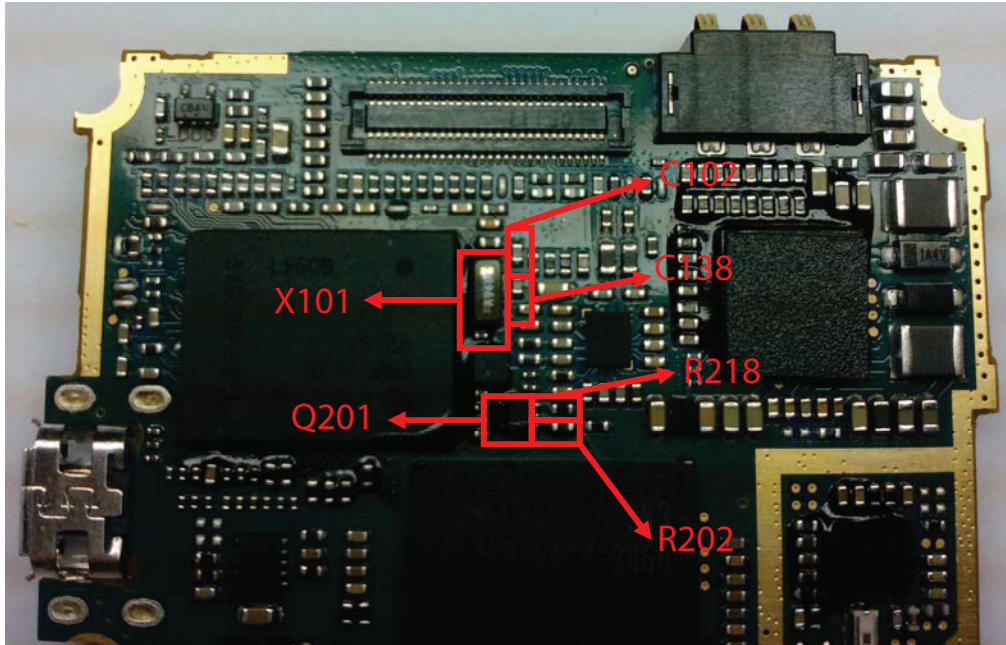
Check Point



END KEY CIRCUIT

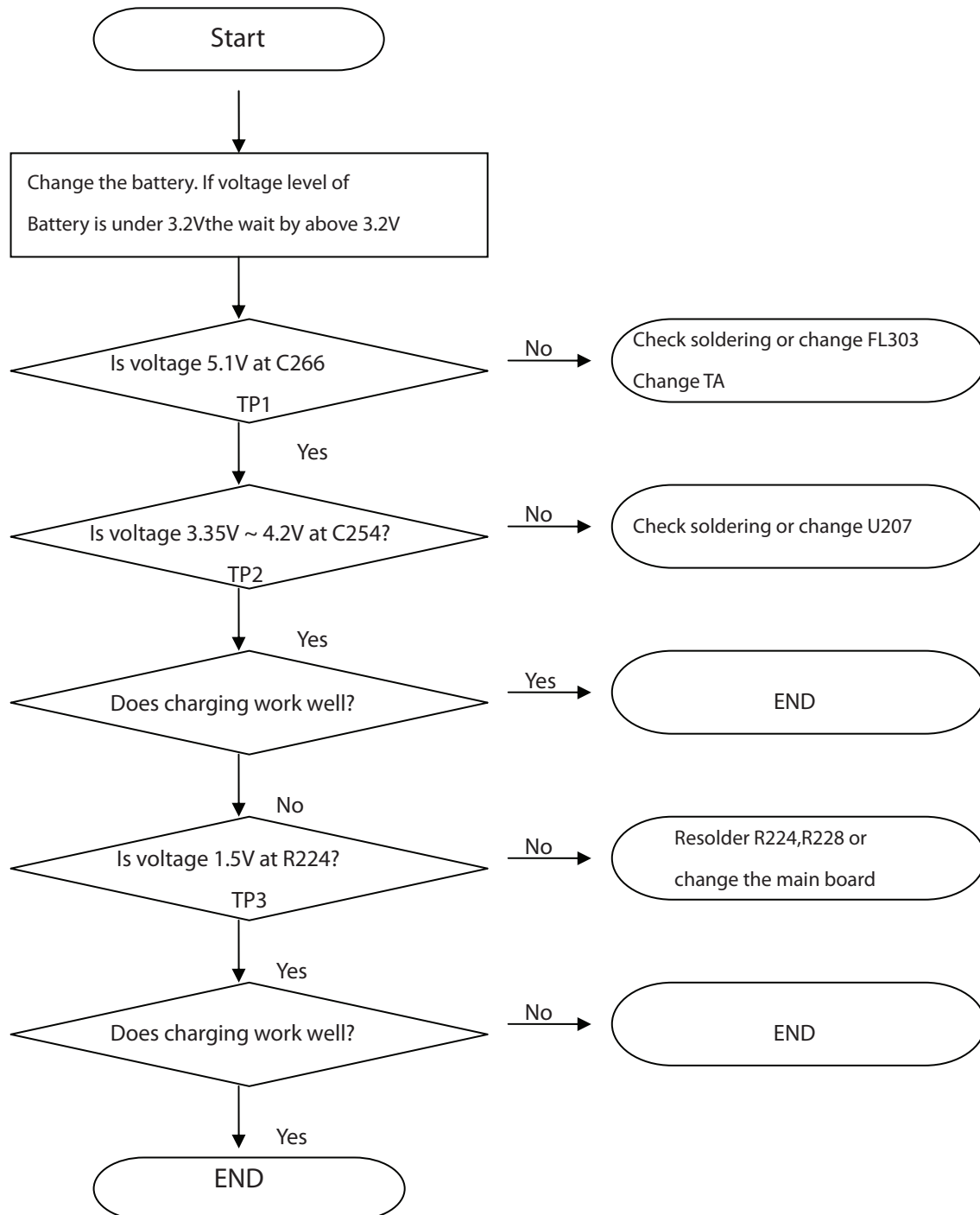


5. TROUBLE SHOOTING



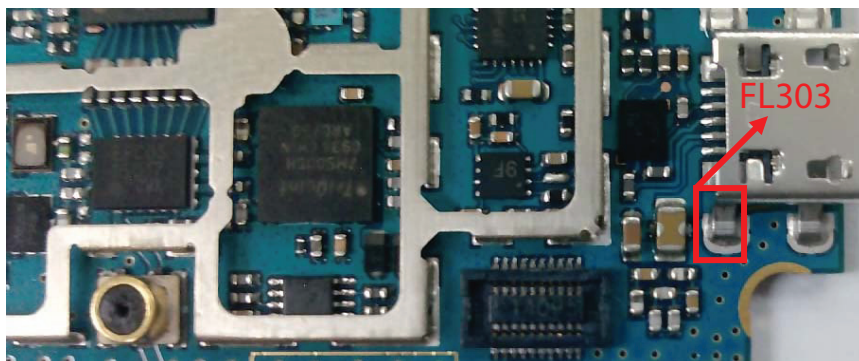
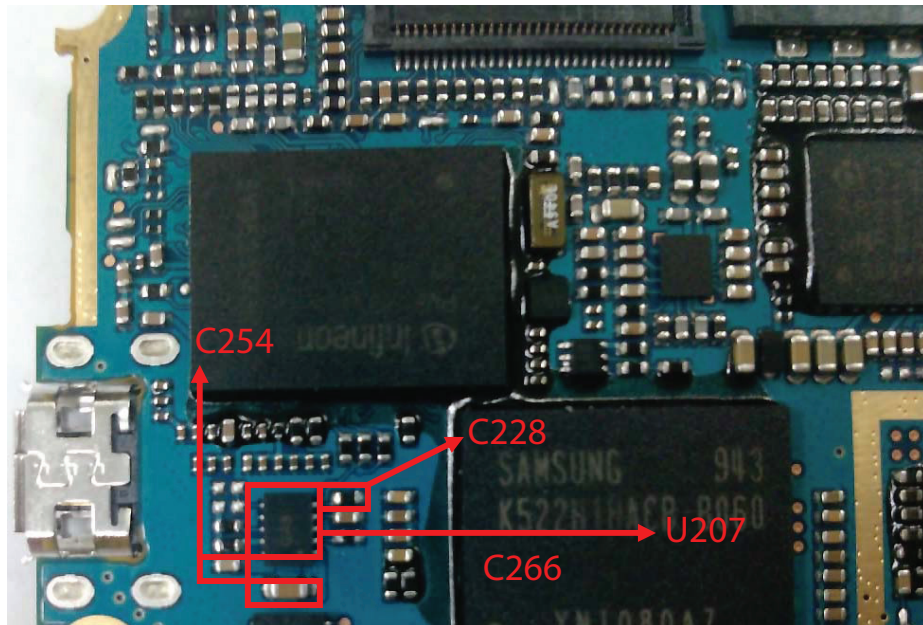
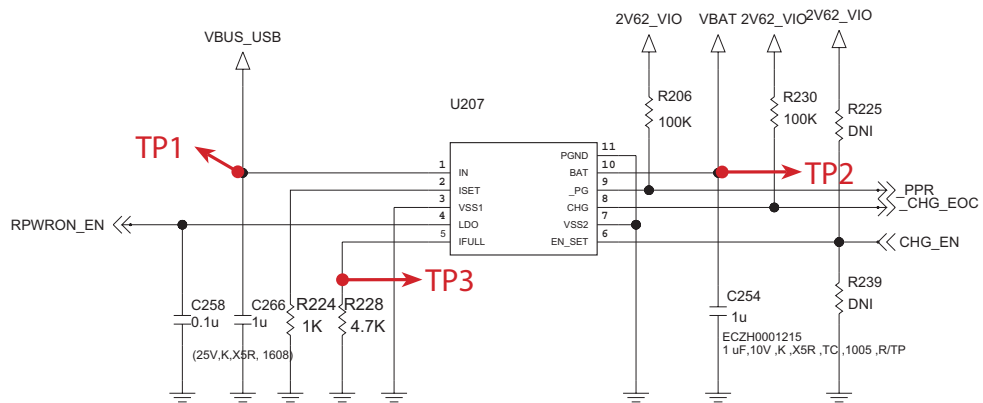
5. TROUBLE SHOOTING

5.3 Charging Trouble



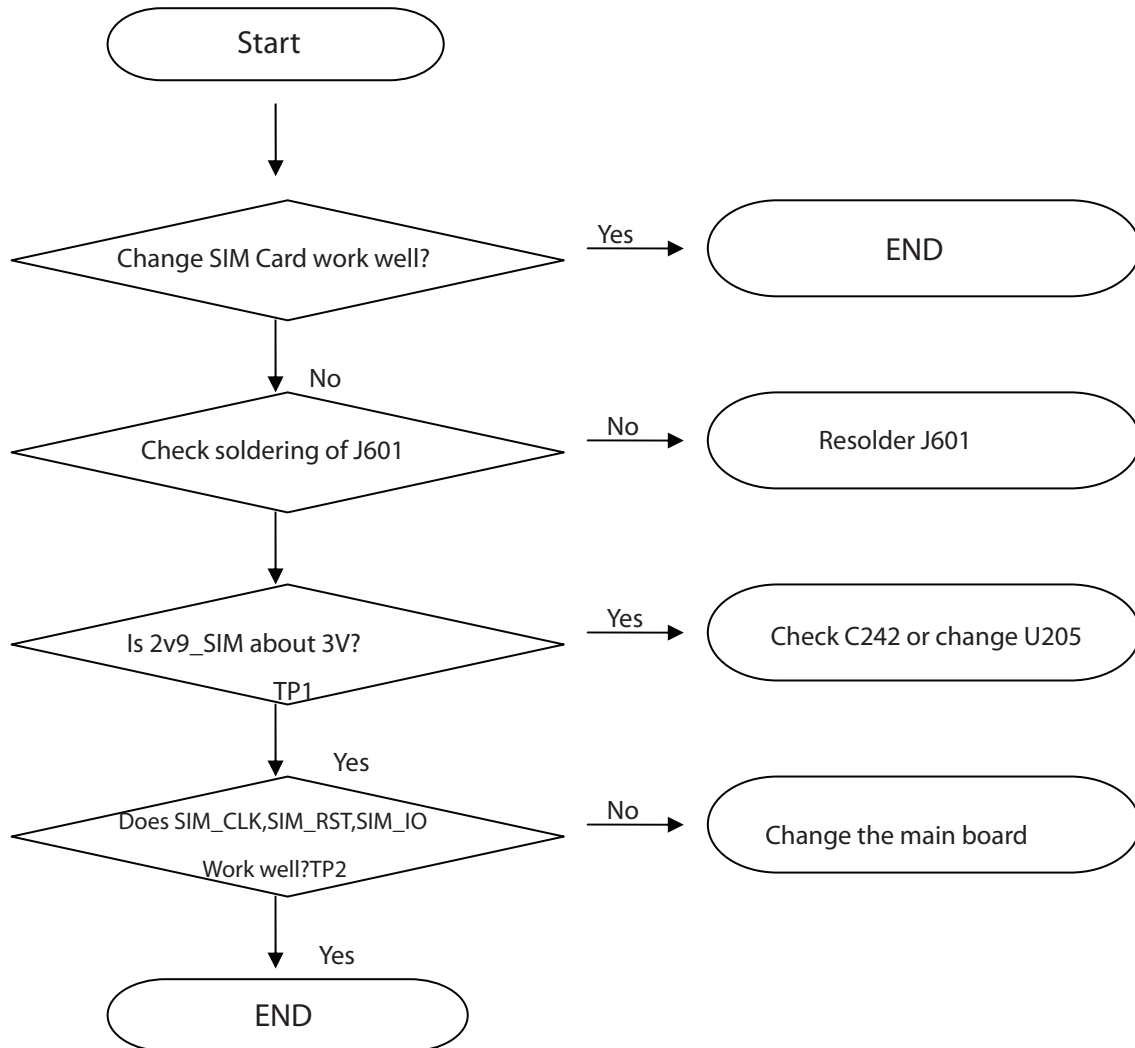
Check Point

CHARGING IC



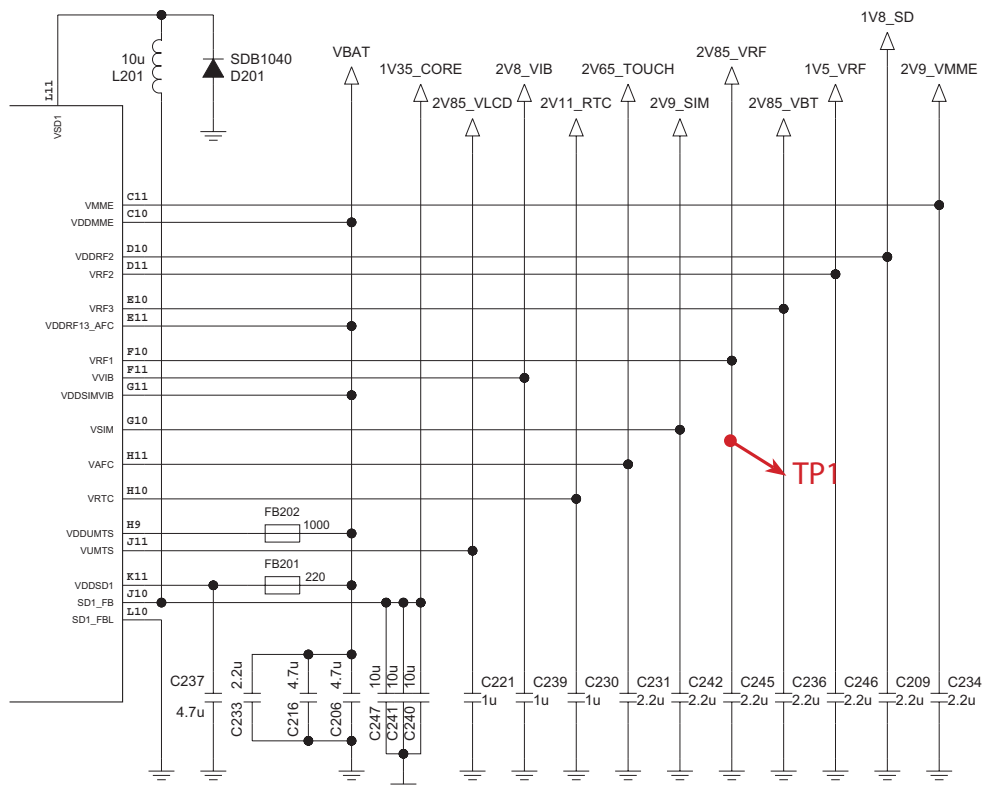
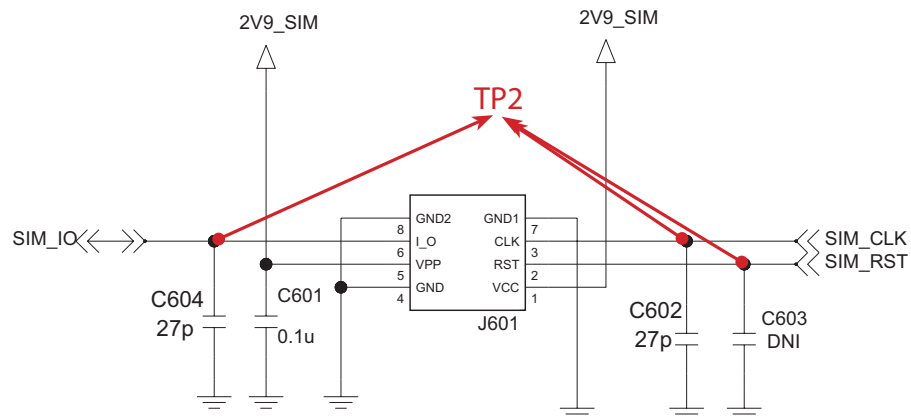
5. TROUBLE SHOOTING

5.4 SIM Detect Trouble

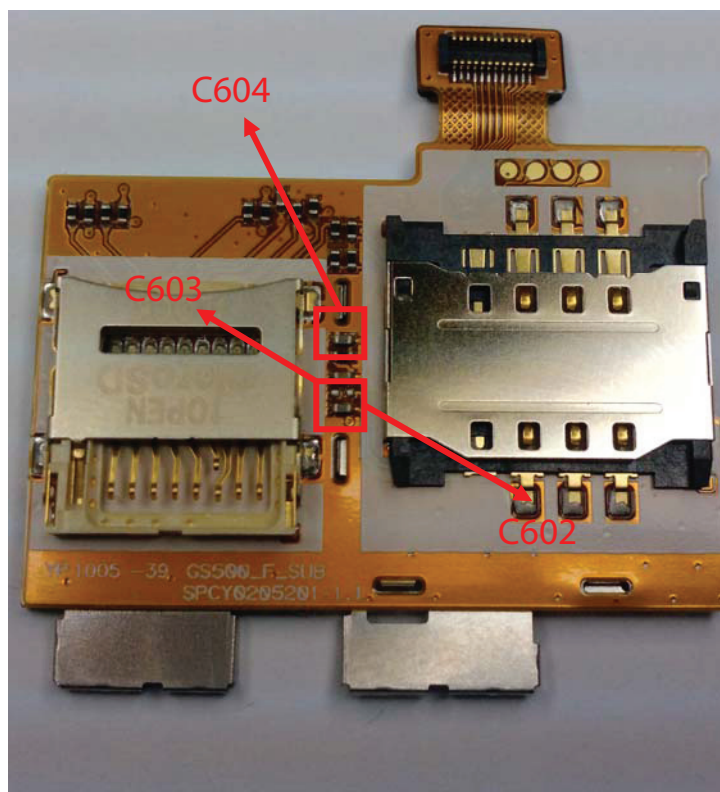
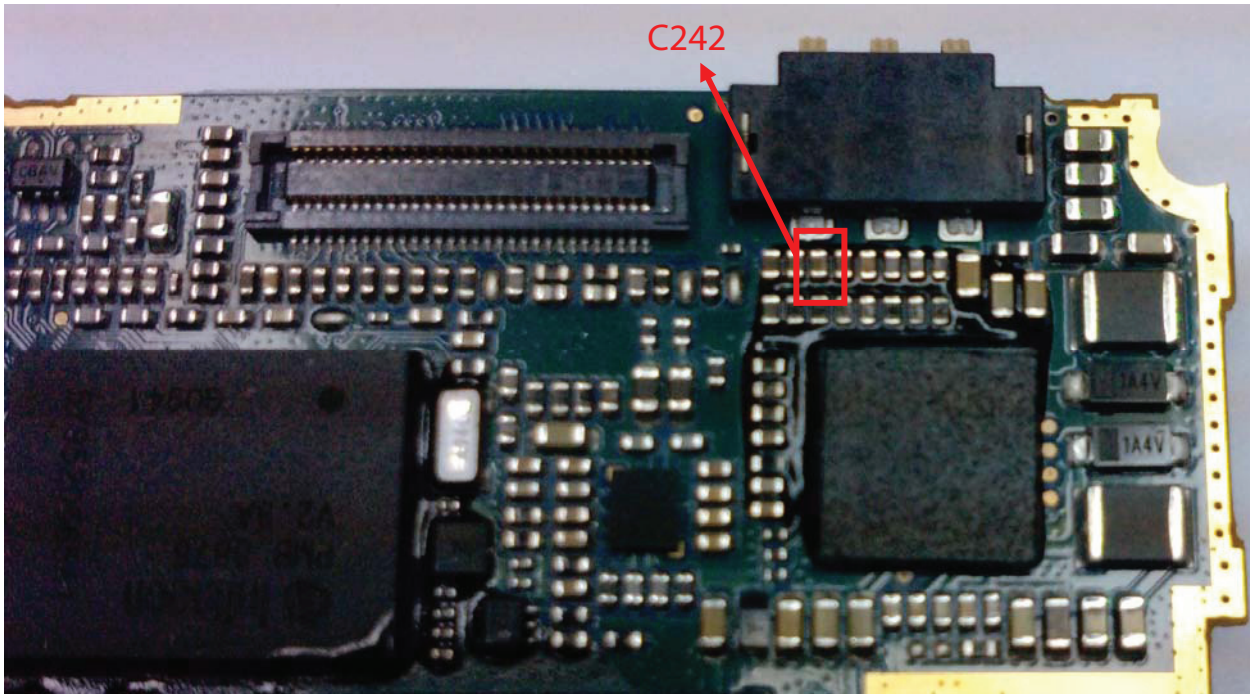


5. TROUBLE SHOOTING

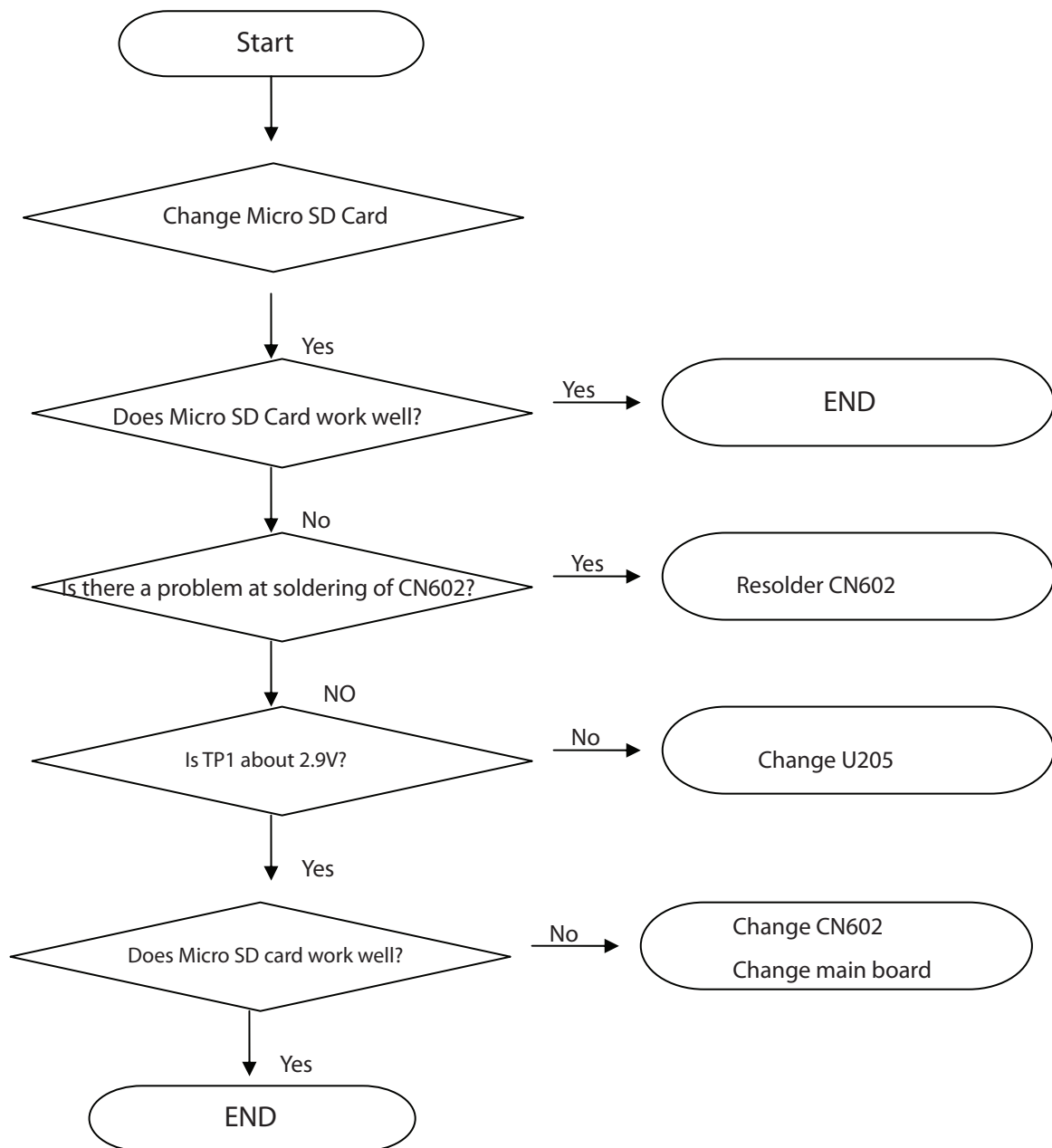
Check Point



5. TROUBLE SHOOTING

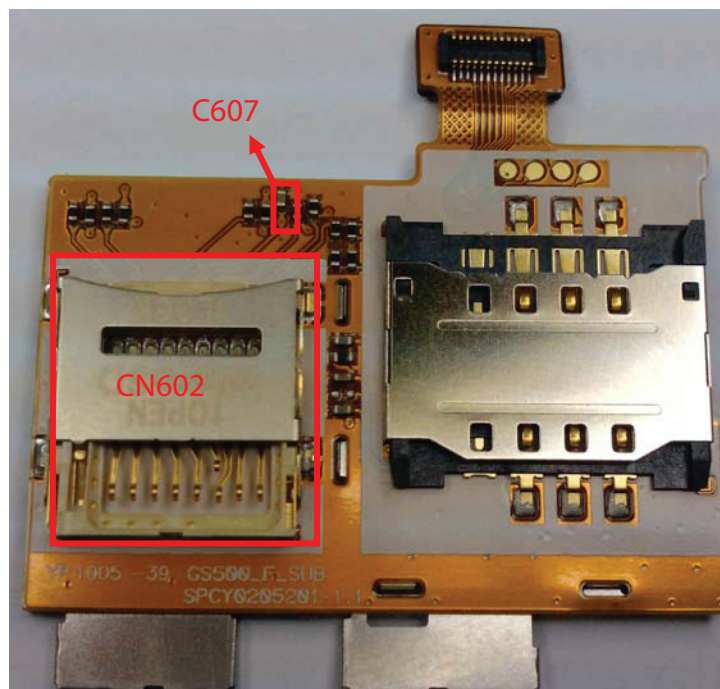
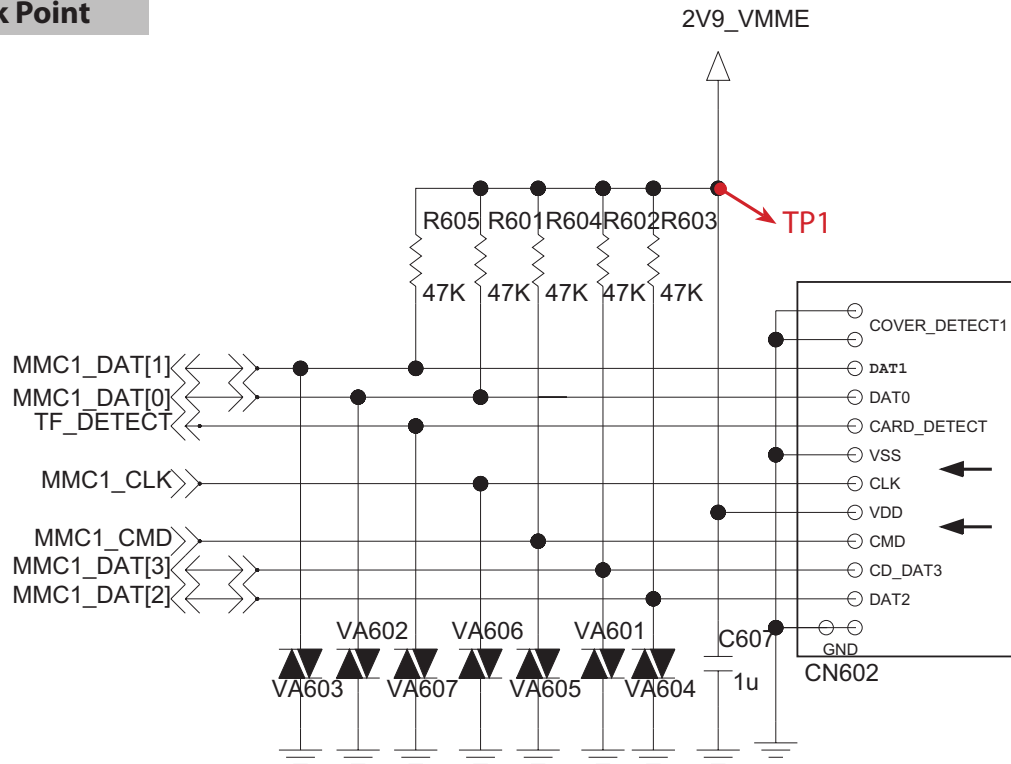


5.5 Micro SD Trouble



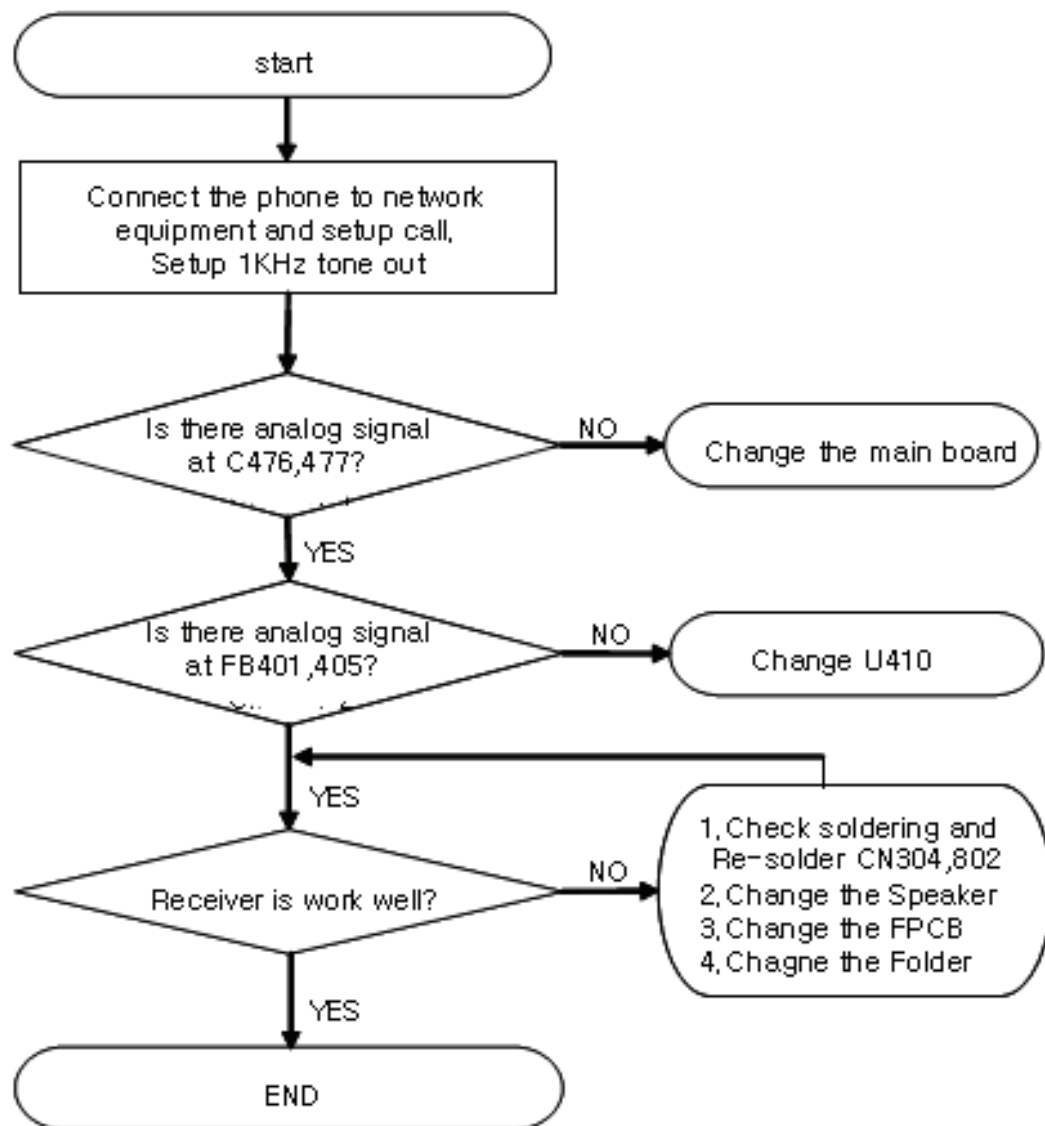
5. TROUBLE SHOOTING

Check Point

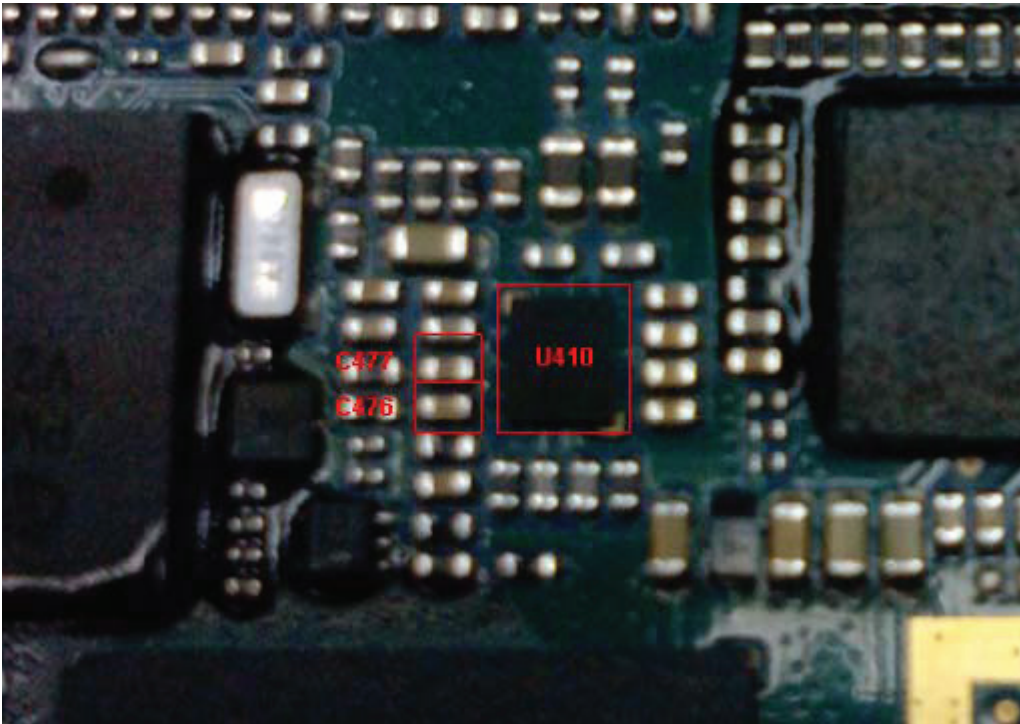
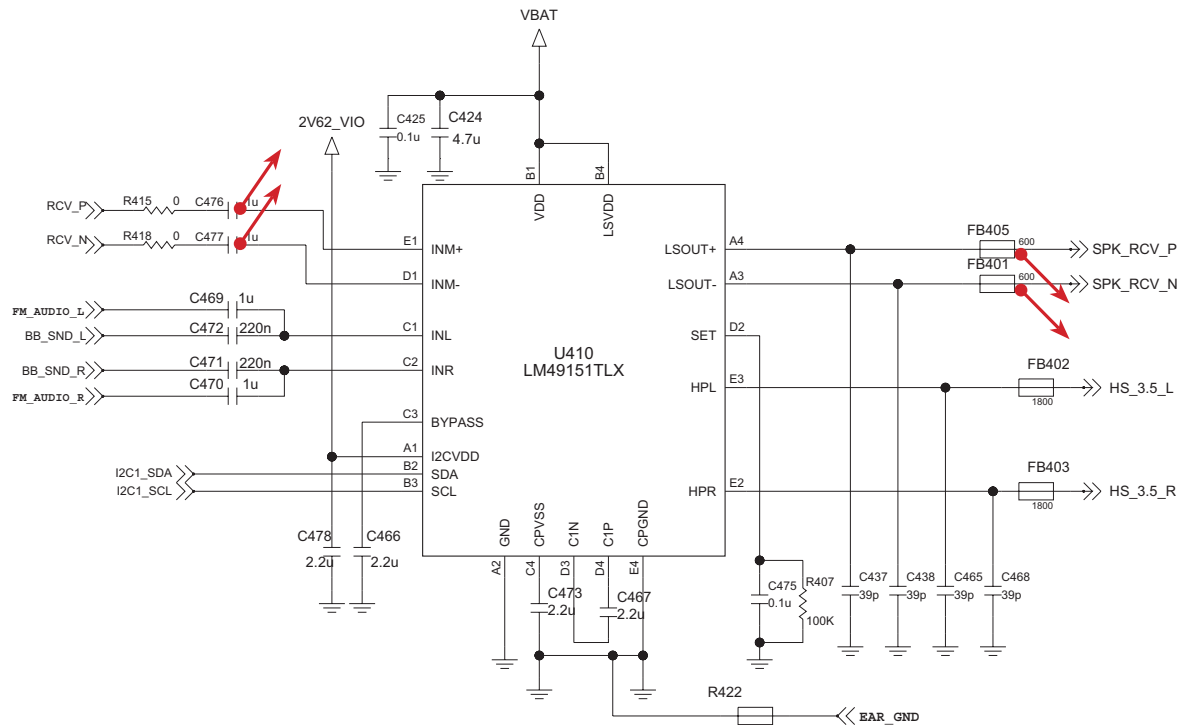


5.6 Audio Trouble

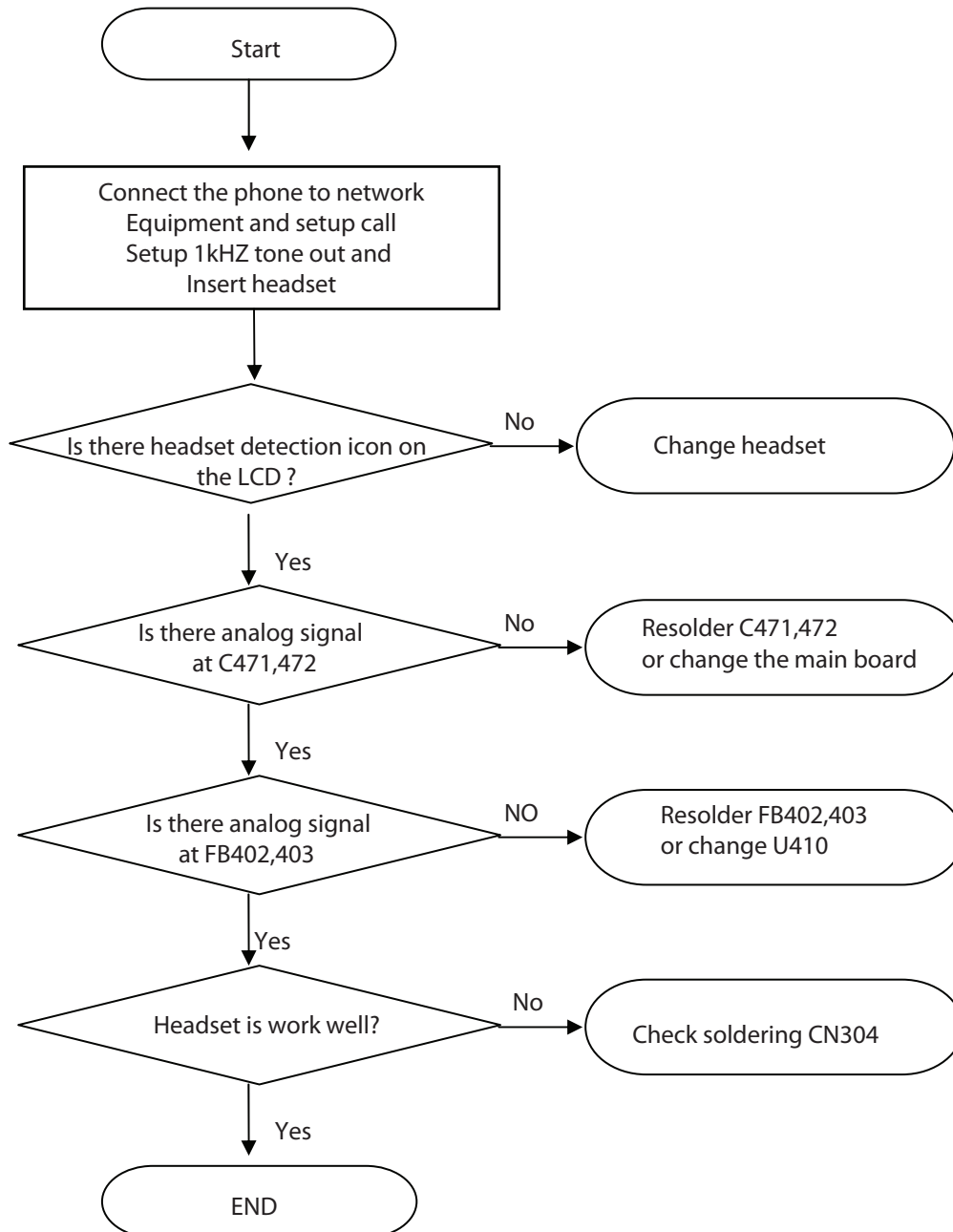
5.6.1 Receiver path



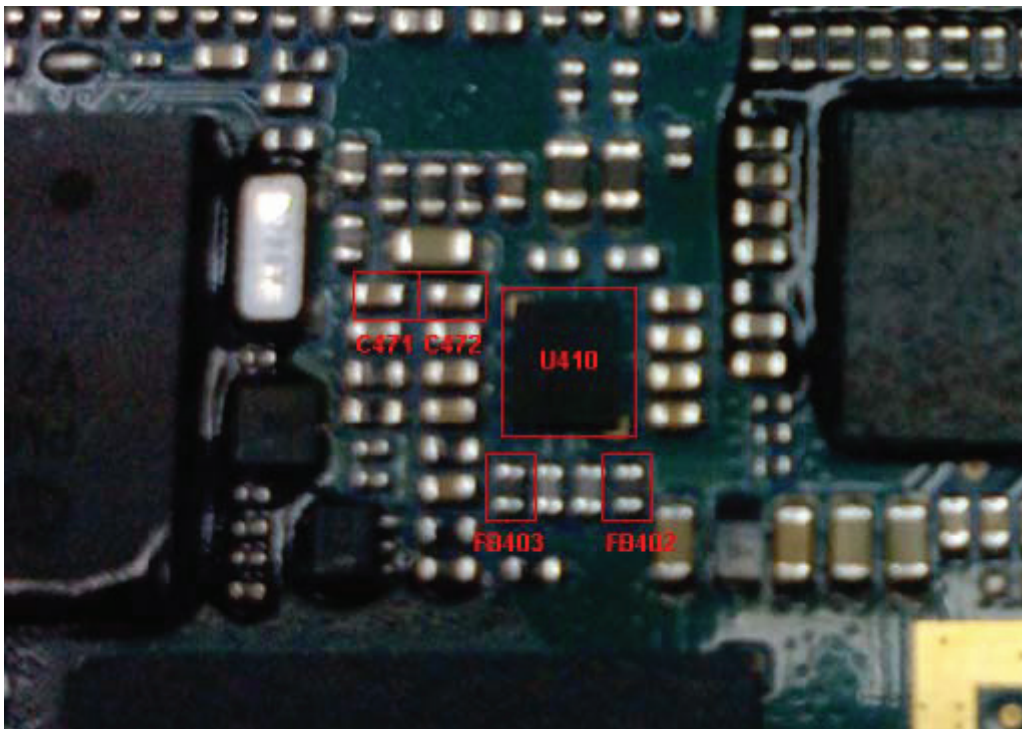
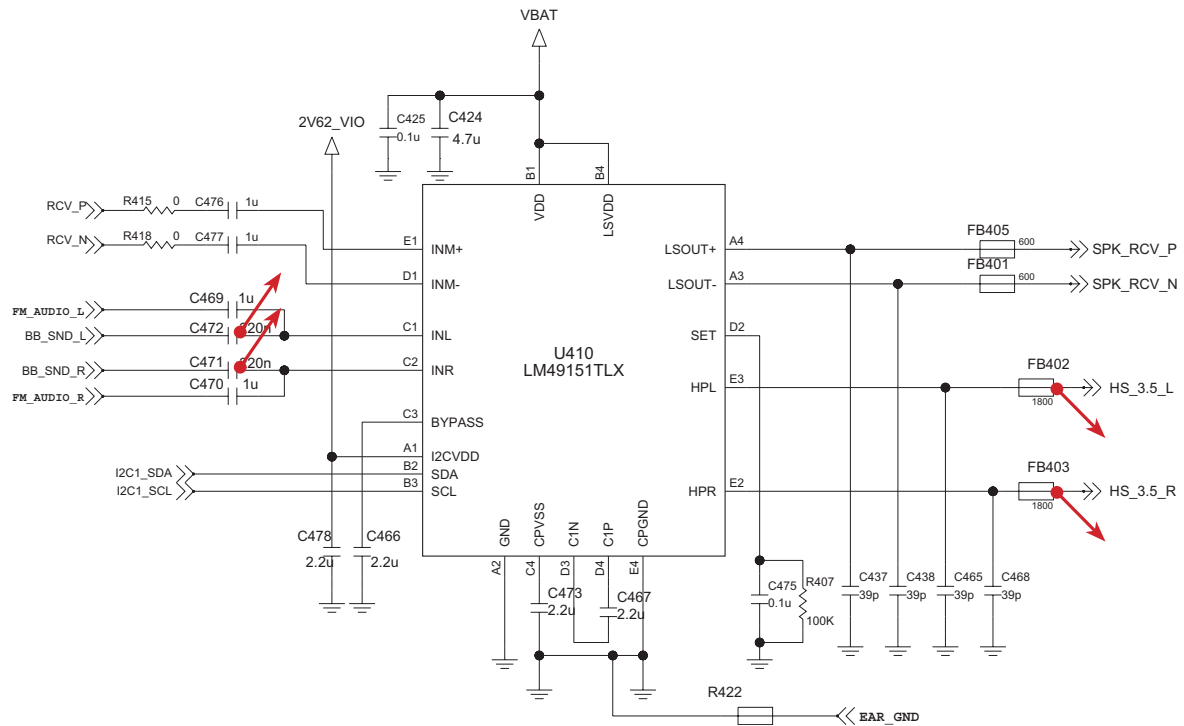
5. TROUBLE SHOOTING



5.6.2 Voice path for headset

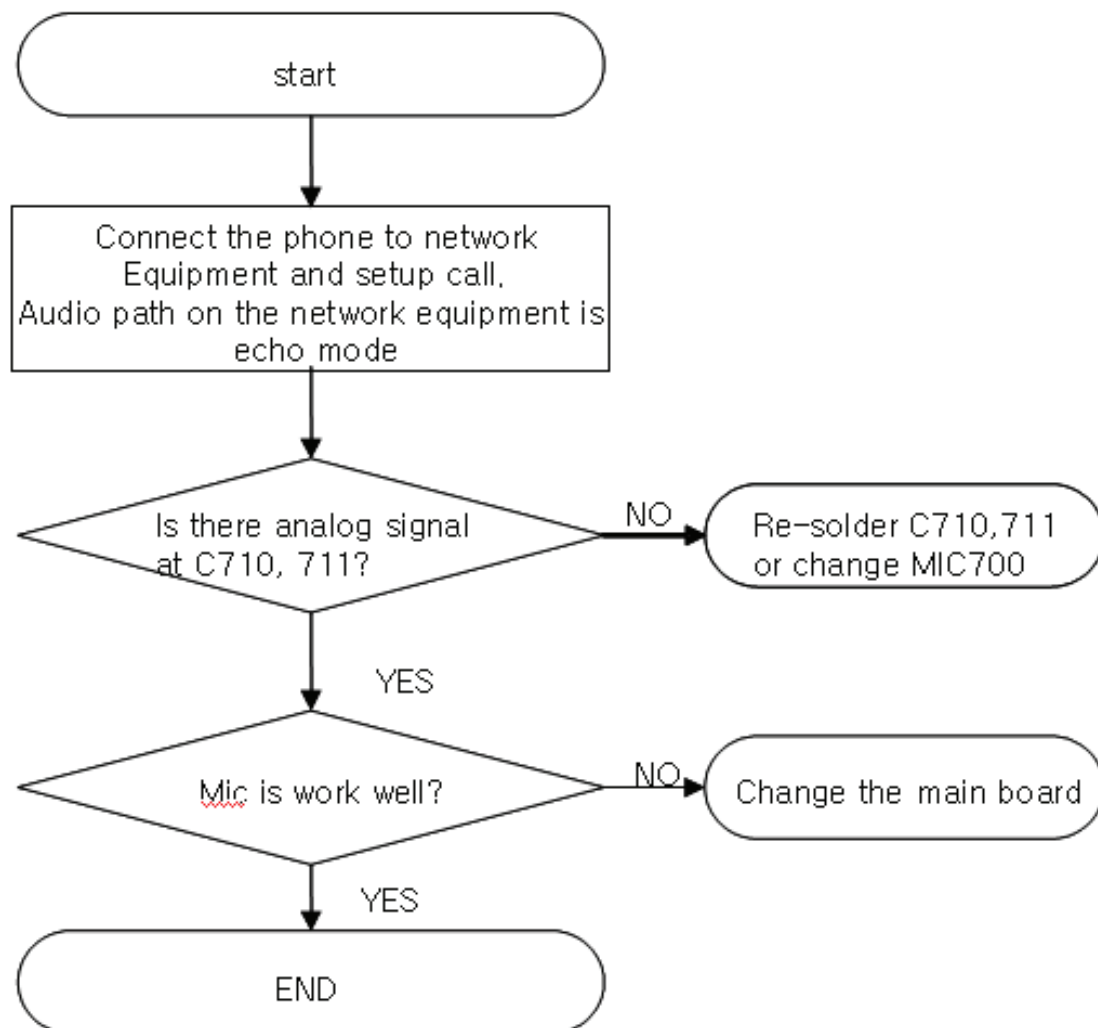


5. TROUBLE SHOOTING

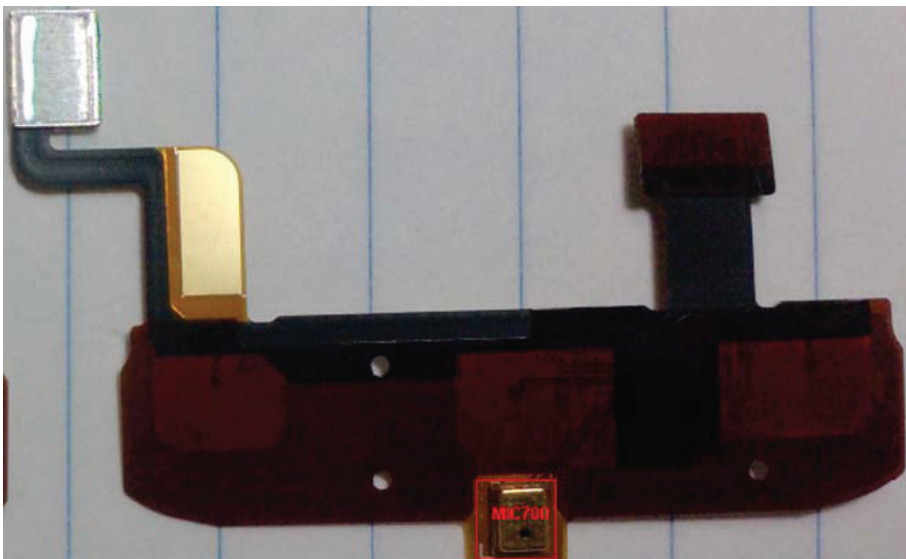
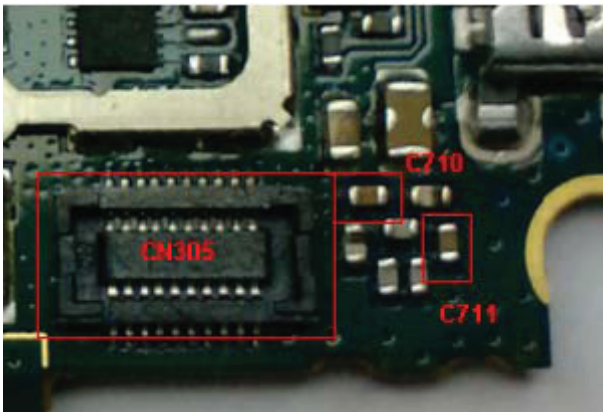
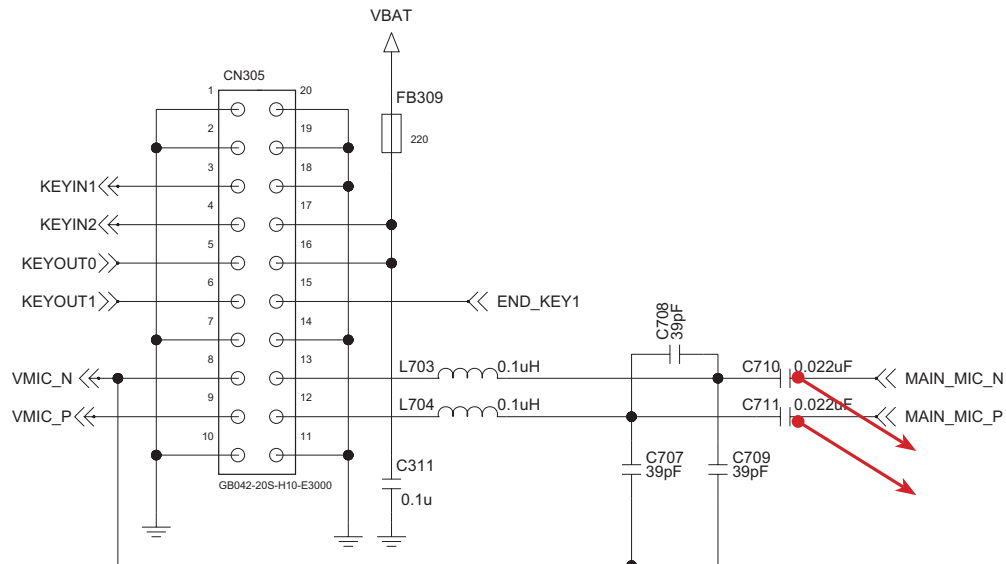


5.7 Microphone Trouble

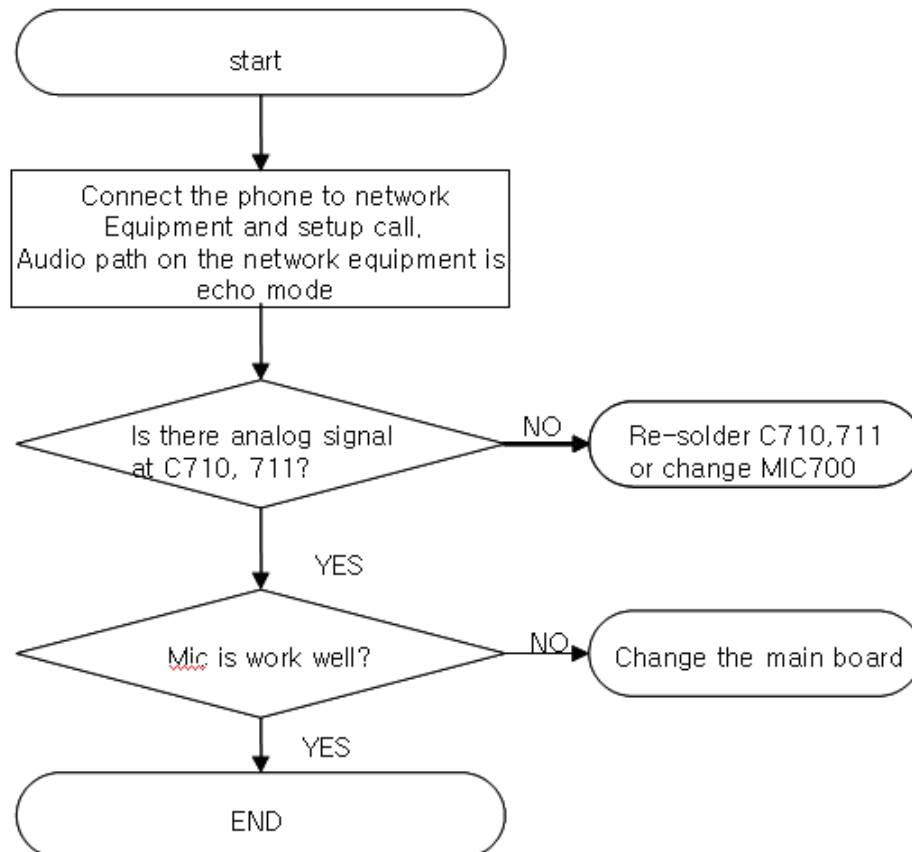
5.7.1 Microphone for main MIC



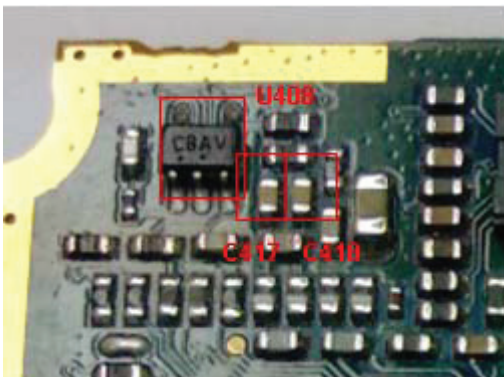
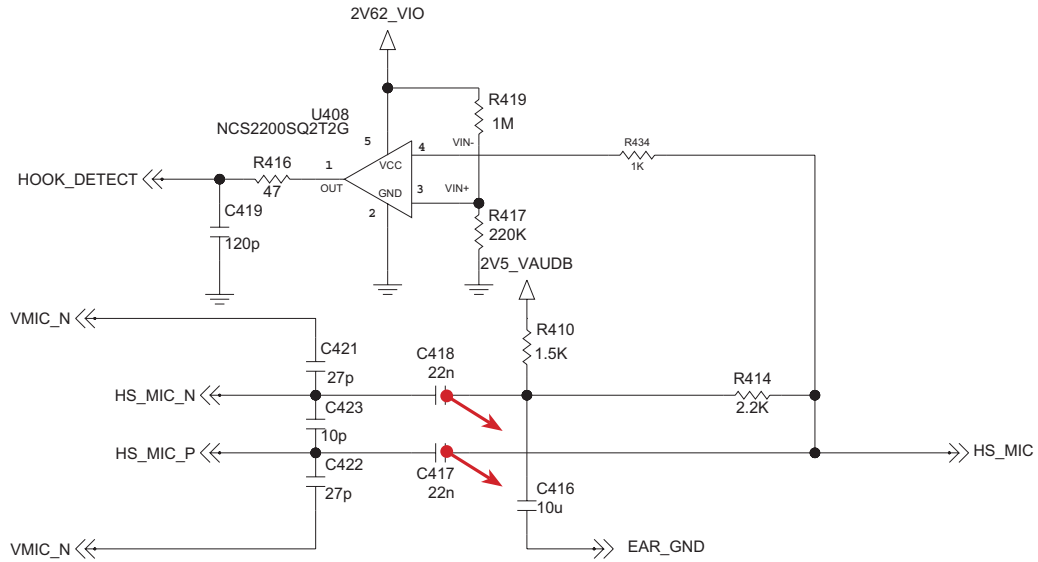
5. TROUBLE SHOOTING



5.7.2 Microphone for headset

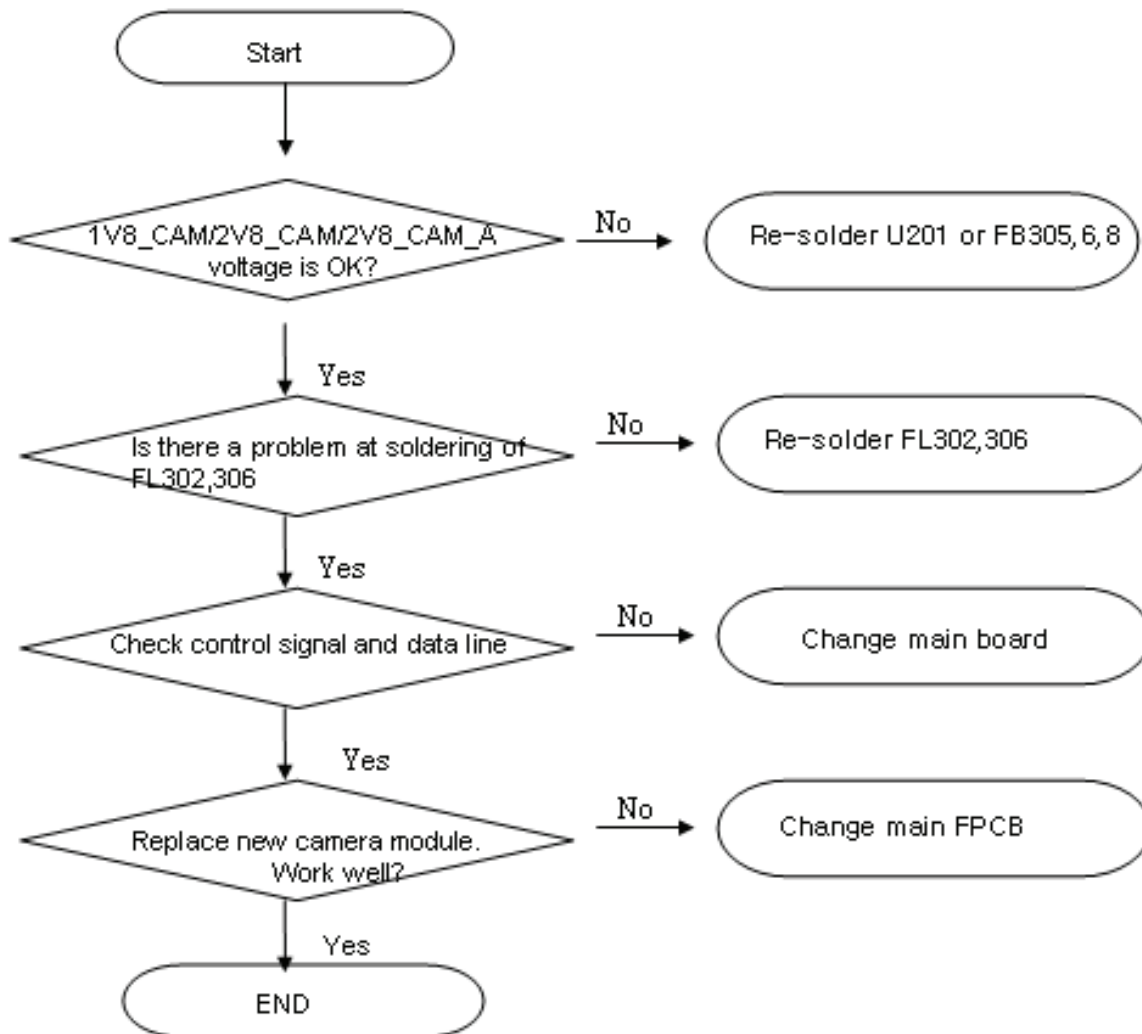


5. TROUBLE SHOOTING



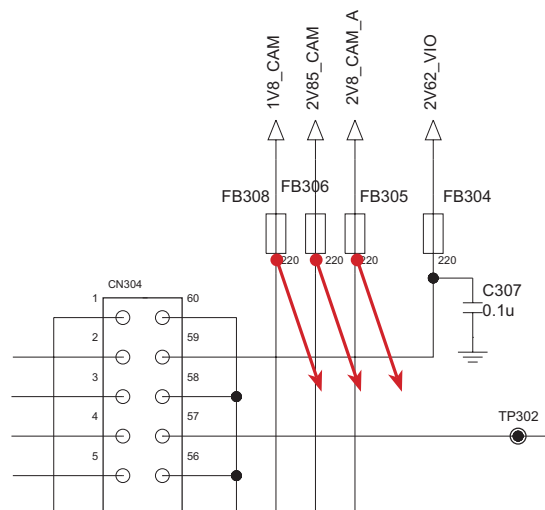
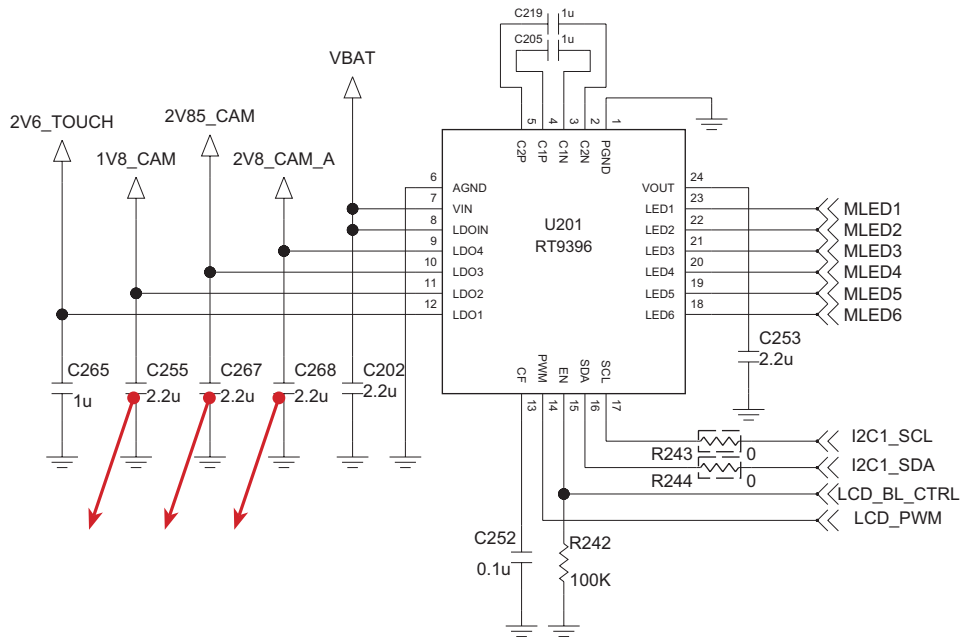
5.8 Camera Trouble

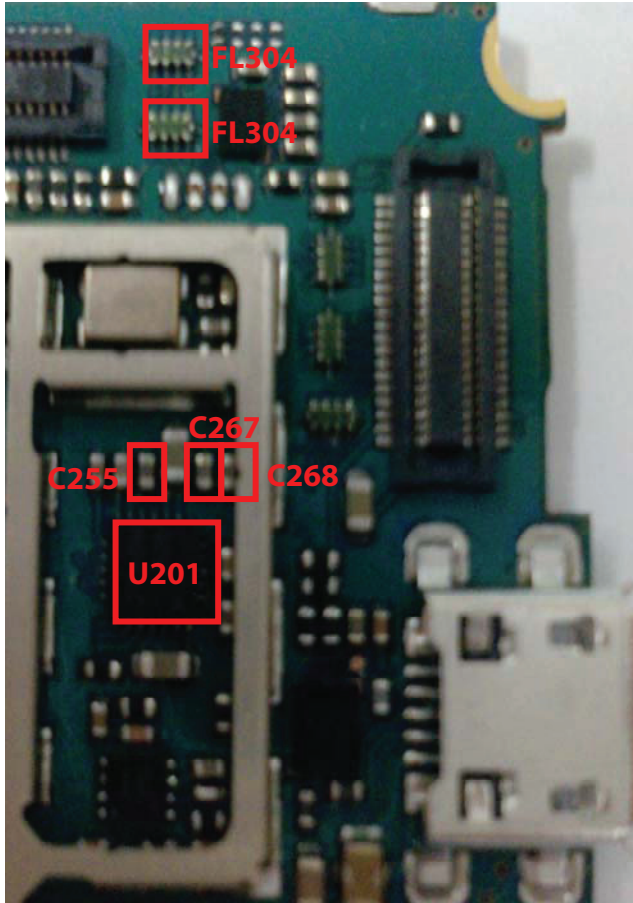
5.8.1 3M Camera



5. TROUBLE SHOOTING

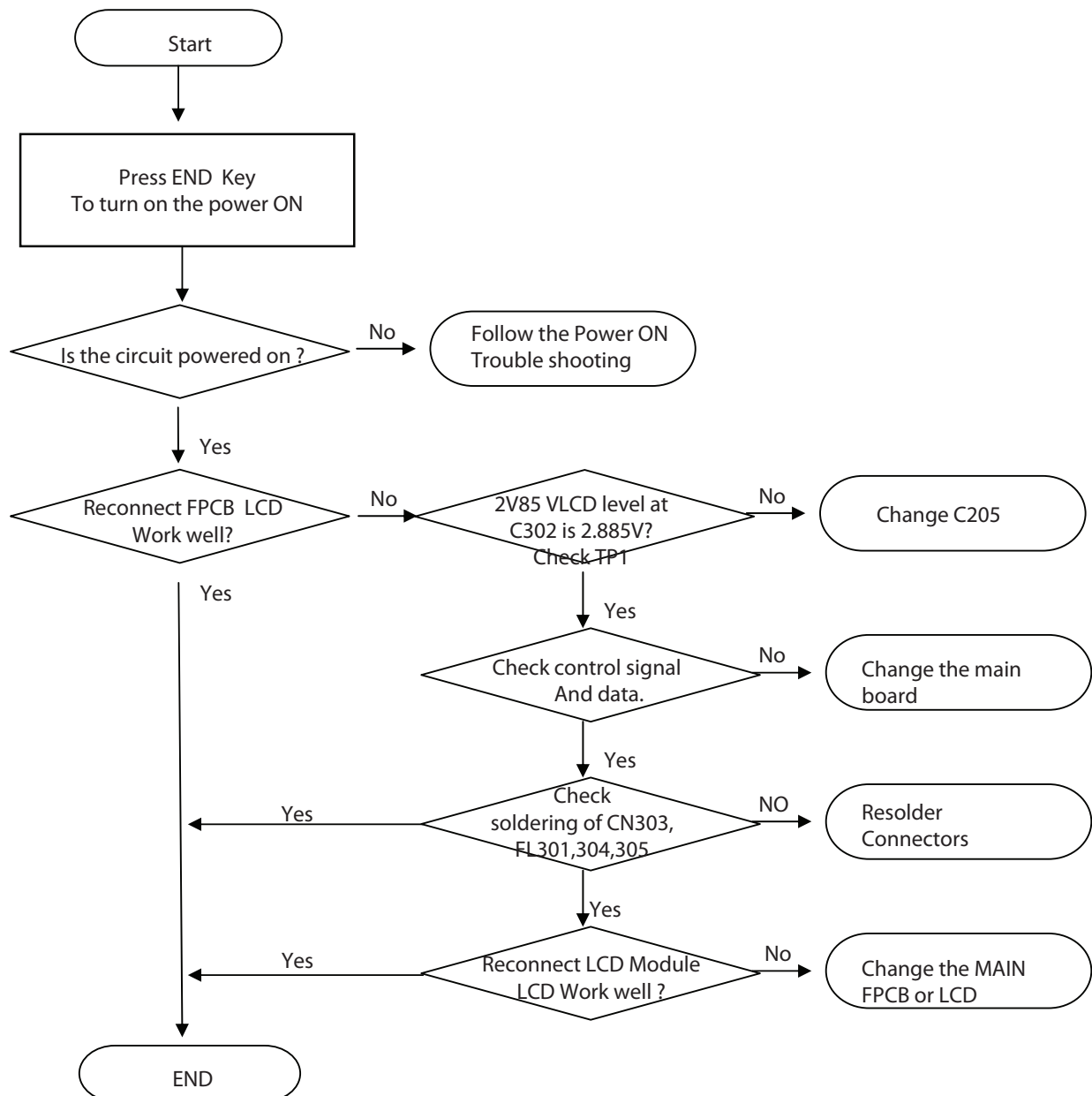
LCD Backlight



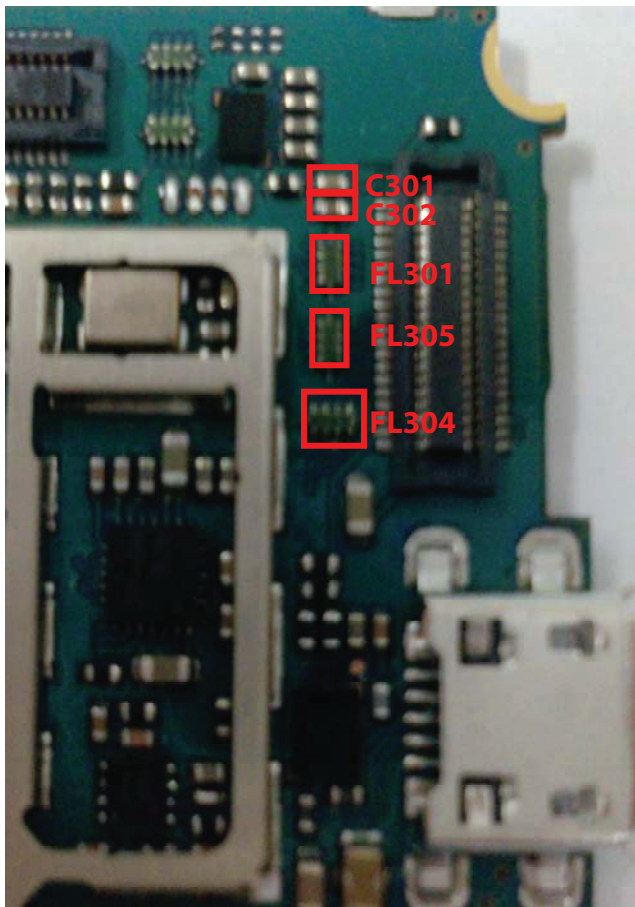
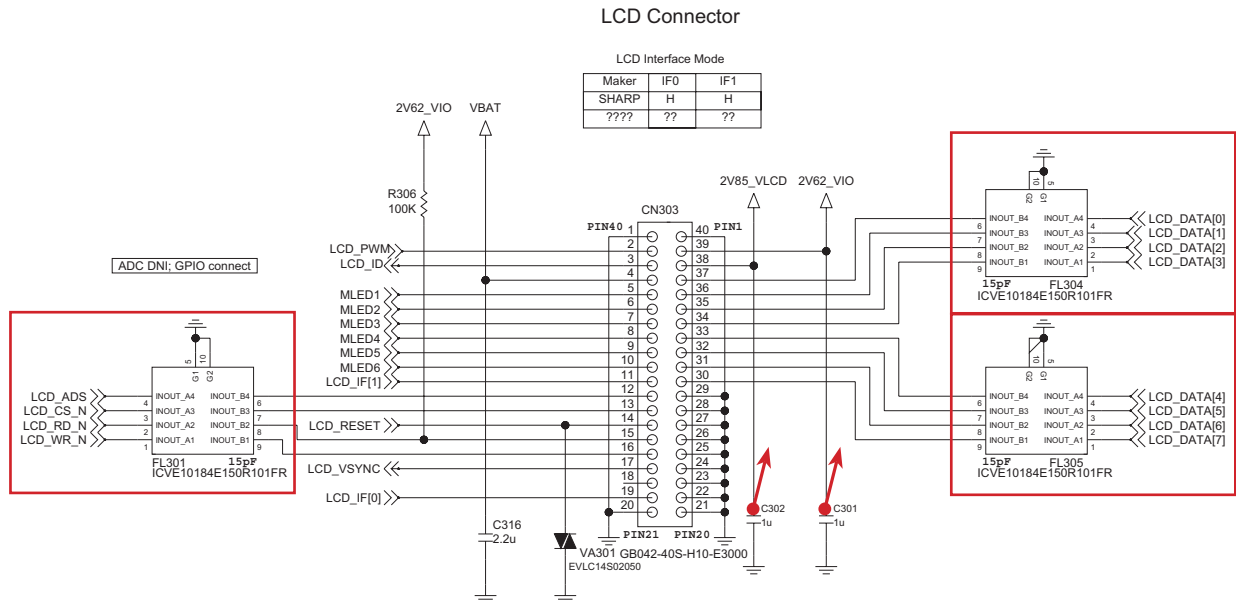


5. TROUBLE SHOOTING

5.9 Main LCD Trouble

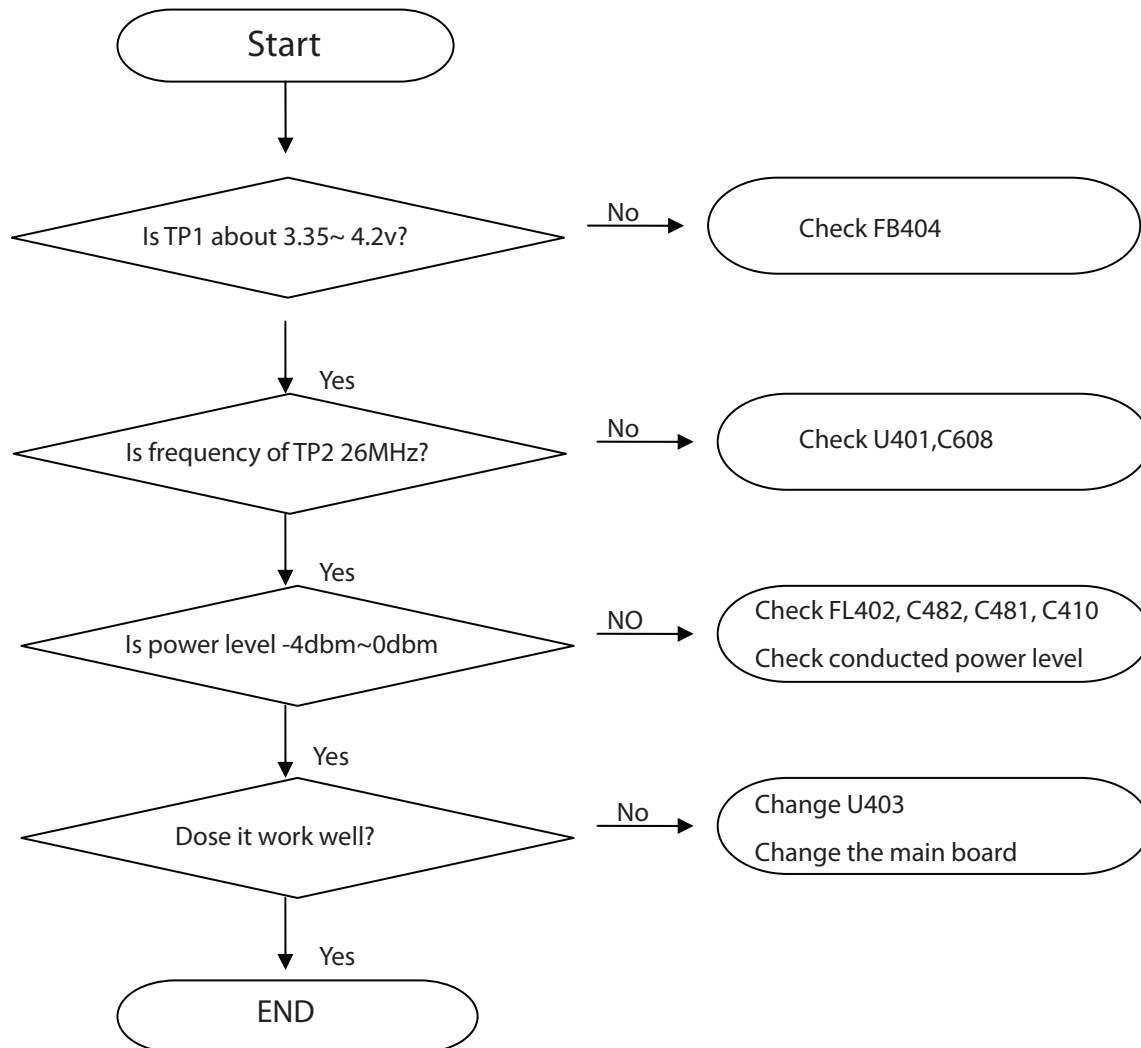


5. TROUBLE SHOOTING



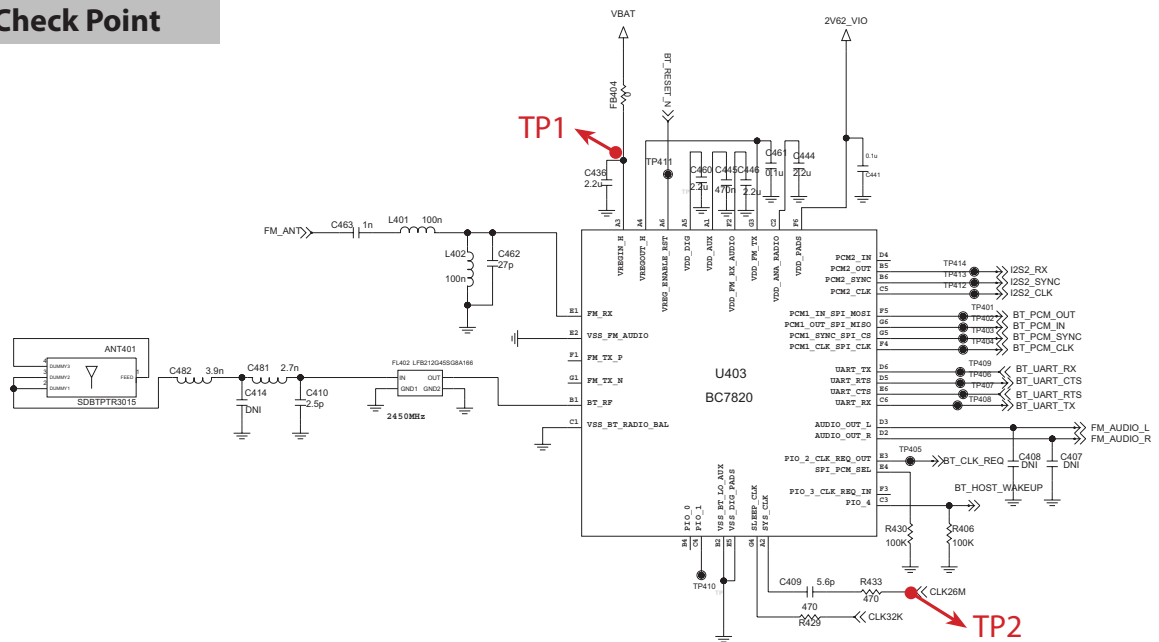
5. TROUBLE SHOOTING

5.10 Bluetooth Trouble



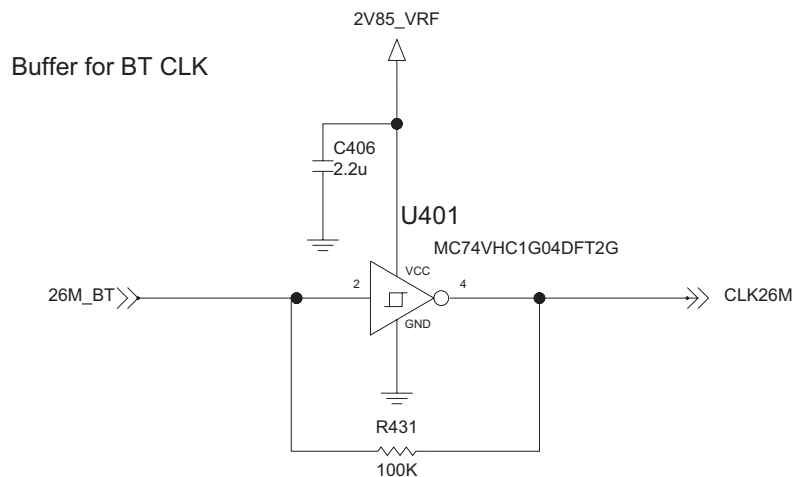
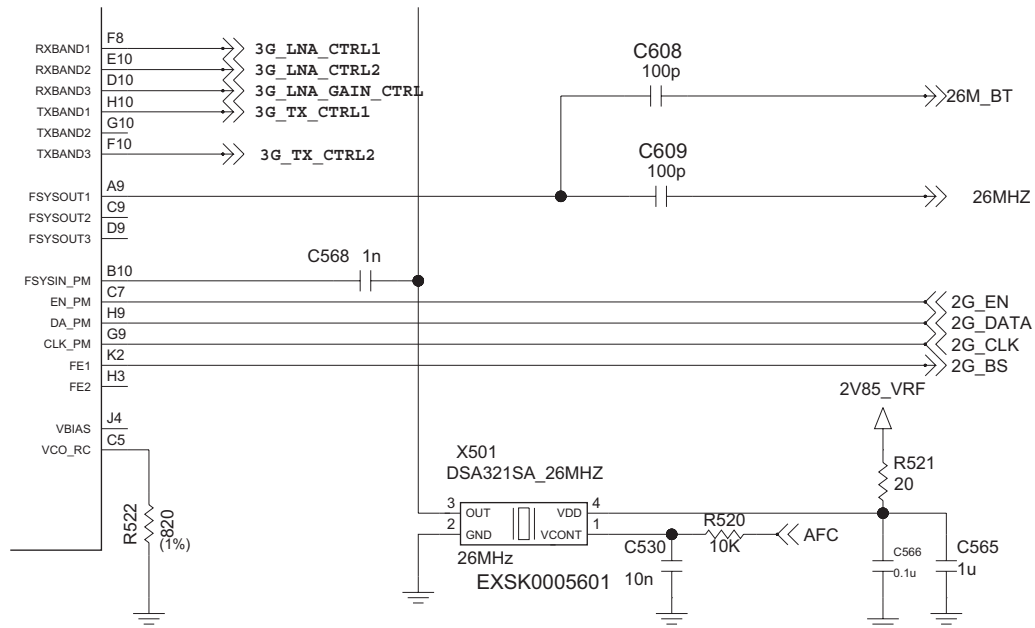
5. TROUBLE SHOOTING

Check Point

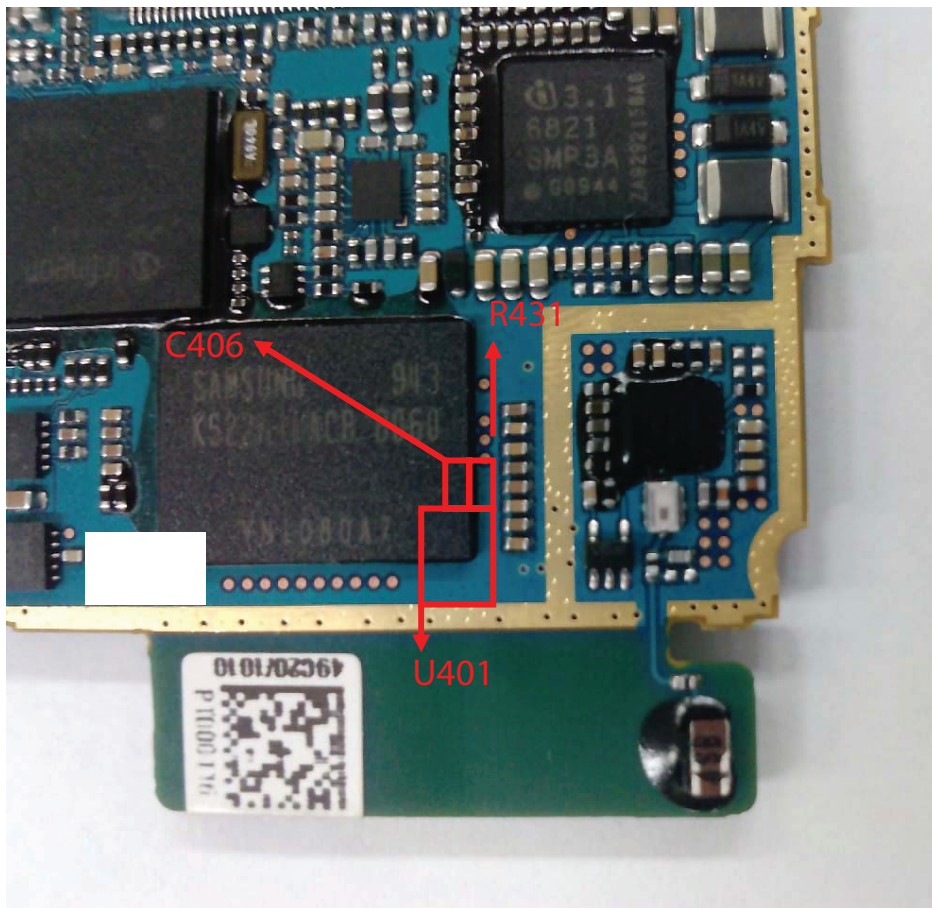
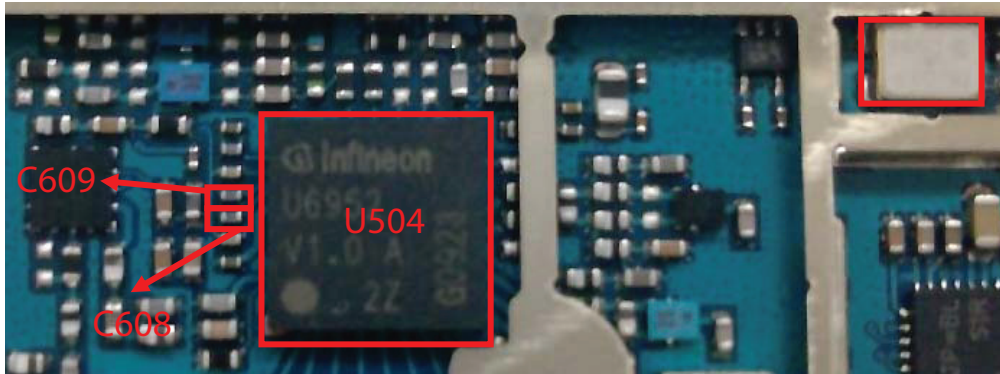


5. TROUBLE SHOOTING

Main Clock Part



5. TROUBLE SHOOTING



5. TROUBLE SHOOTING

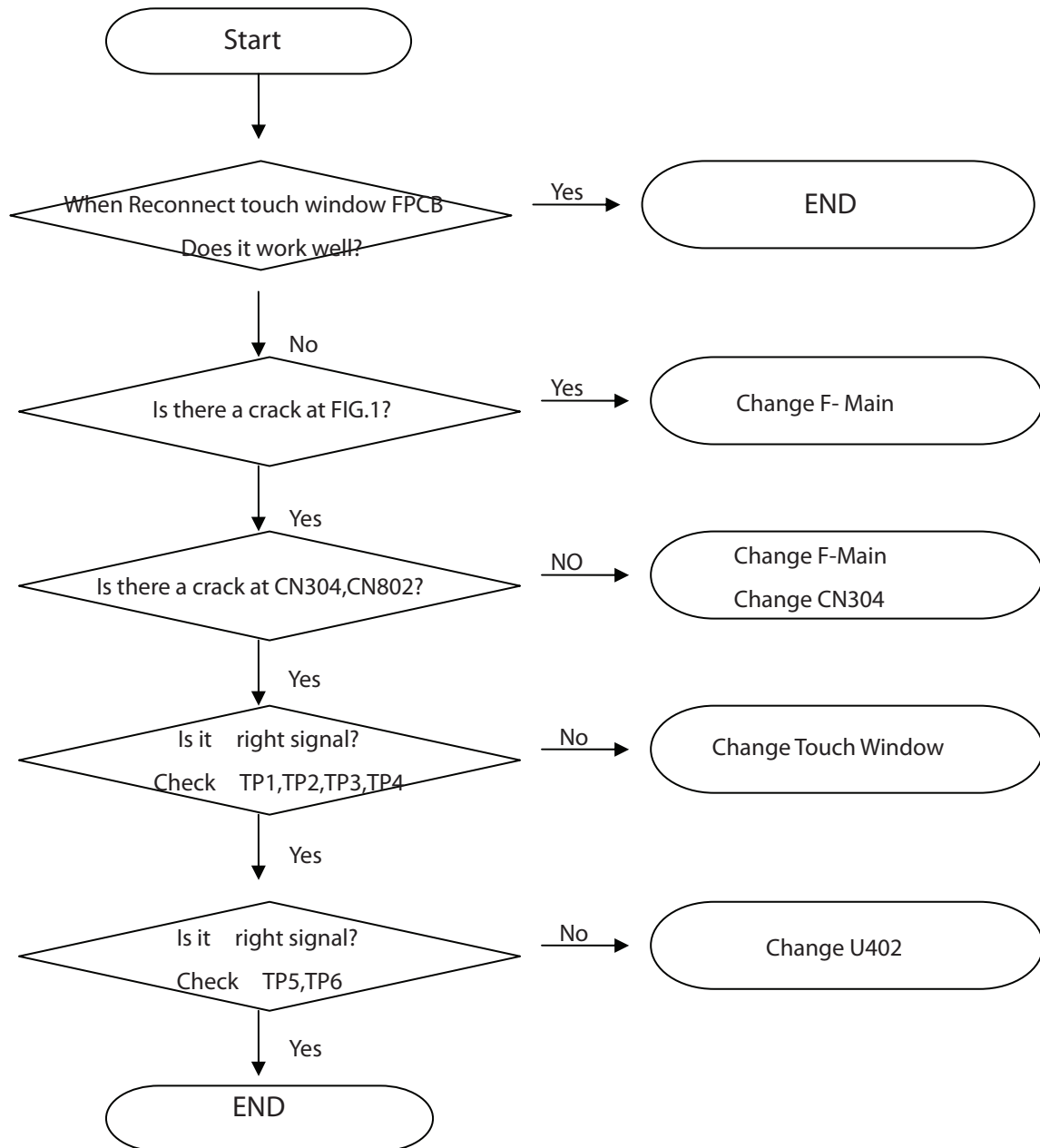


TC-3000B (Bluetooth Tester)

◆ Bluetooth RF Test procedure

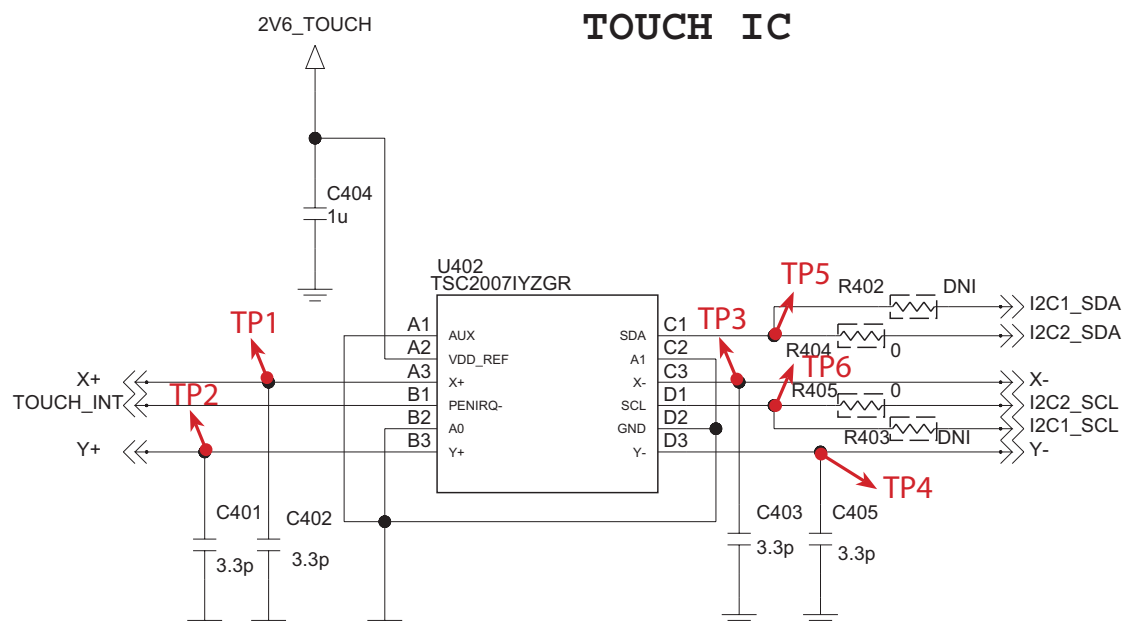
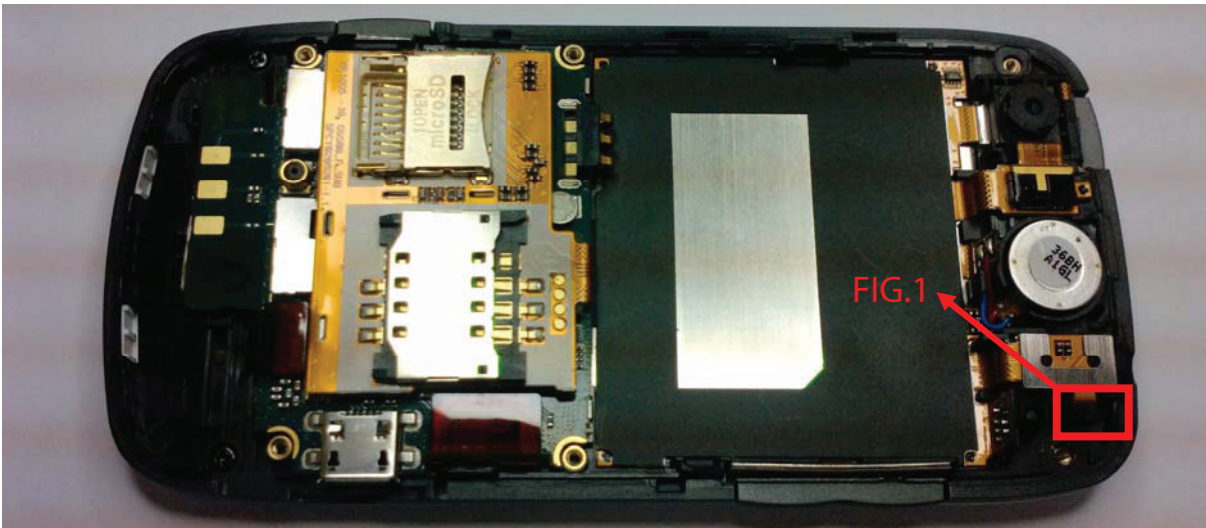
1. Set phone to bluetooth test-mode.
 - Blue tooth ON : Enter Test Mode(1809#*500#) → Eng Mode → BT Testing → RF Test
2. Insert a phone in a TEMCELL (in case of radiation test)
3. Set 'discover' after push menu button of the tester and select the link analyzer .
4. After 'set test mode', confirm the connection state.
5. Measure the power of full channel after hopping mode is selected to 'ON'
6. You can select wanted test cases after getting an optimized power
7. Blue tooth Off
 - Menu(OK key)→setting→4)Connectivity→1)Bluetooth→1)Turn on/Turn off

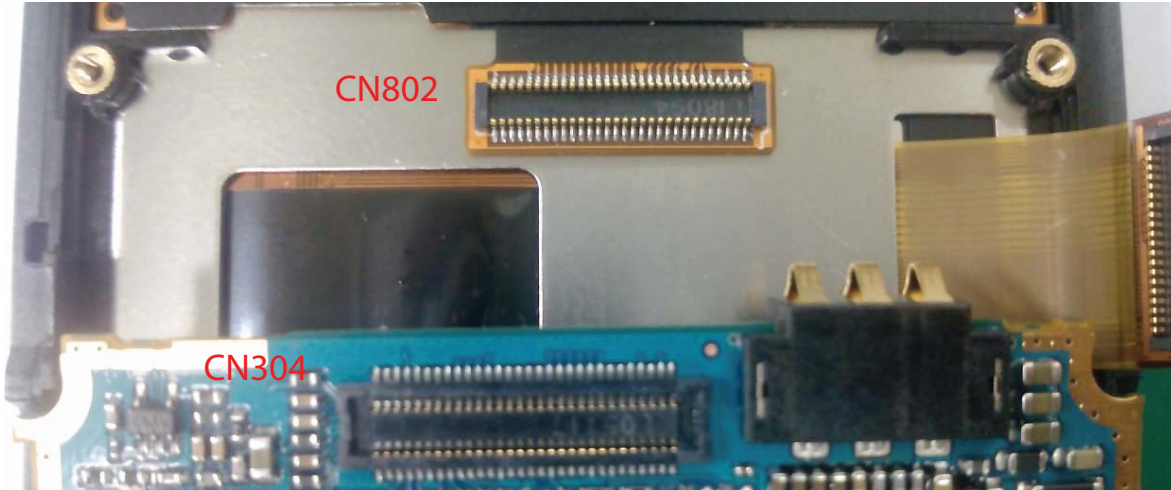
5.11 Touch Sensor



5. TROUBLE SHOOTING

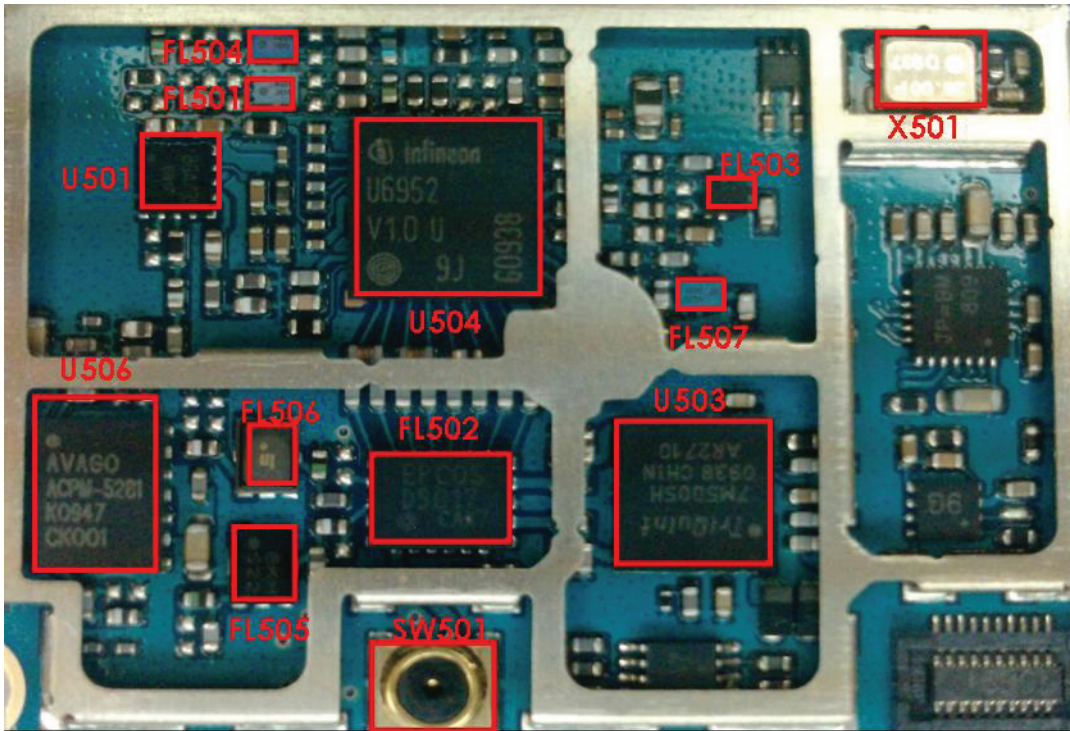
Check Point





5. TROUBLE SHOOTING

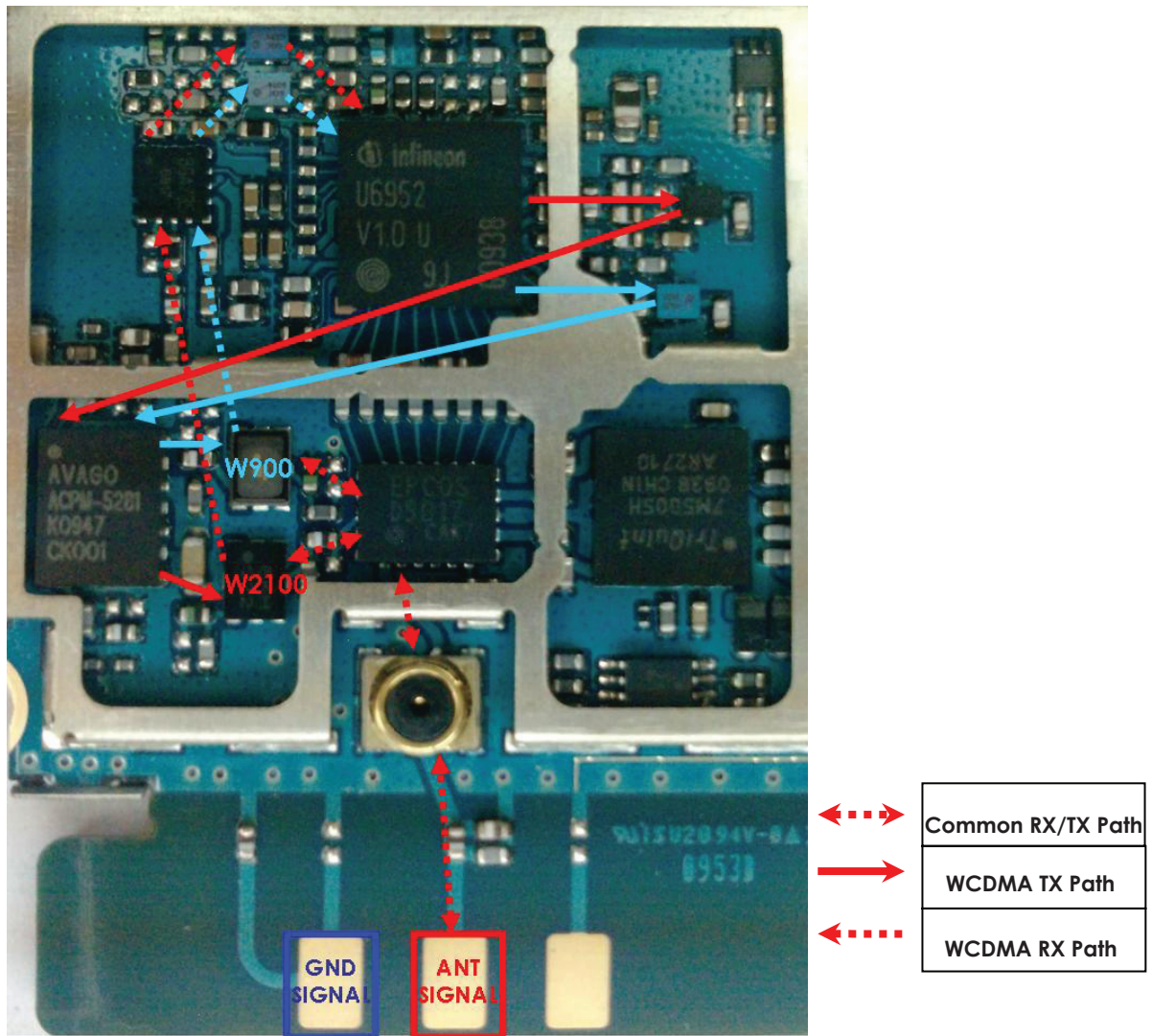
5.12 RF Component



Ref.	Description	Ref.	Description
U504	RF Transceiver	FL504	Rx SAW Filter(WCDMA900)
FL502	FEM	FL501	Rx SAW Filter(WCDMA2100)
U506	PAM(WCDMA2100,900)	FL503	Tx SAW Filter(WCDMA2100)
U503	PAM(GSM850/900/1800/1900)	FL507	Tx SAW Filter(WCDMA900)
U501	LNA(WCDMA2100,W900)	FL505	Duplexer(WCDMA2100)
X501	TCXO(26MHz)	FL506	Duplexer(WCDMA900)
SW501	RF SWITCH		

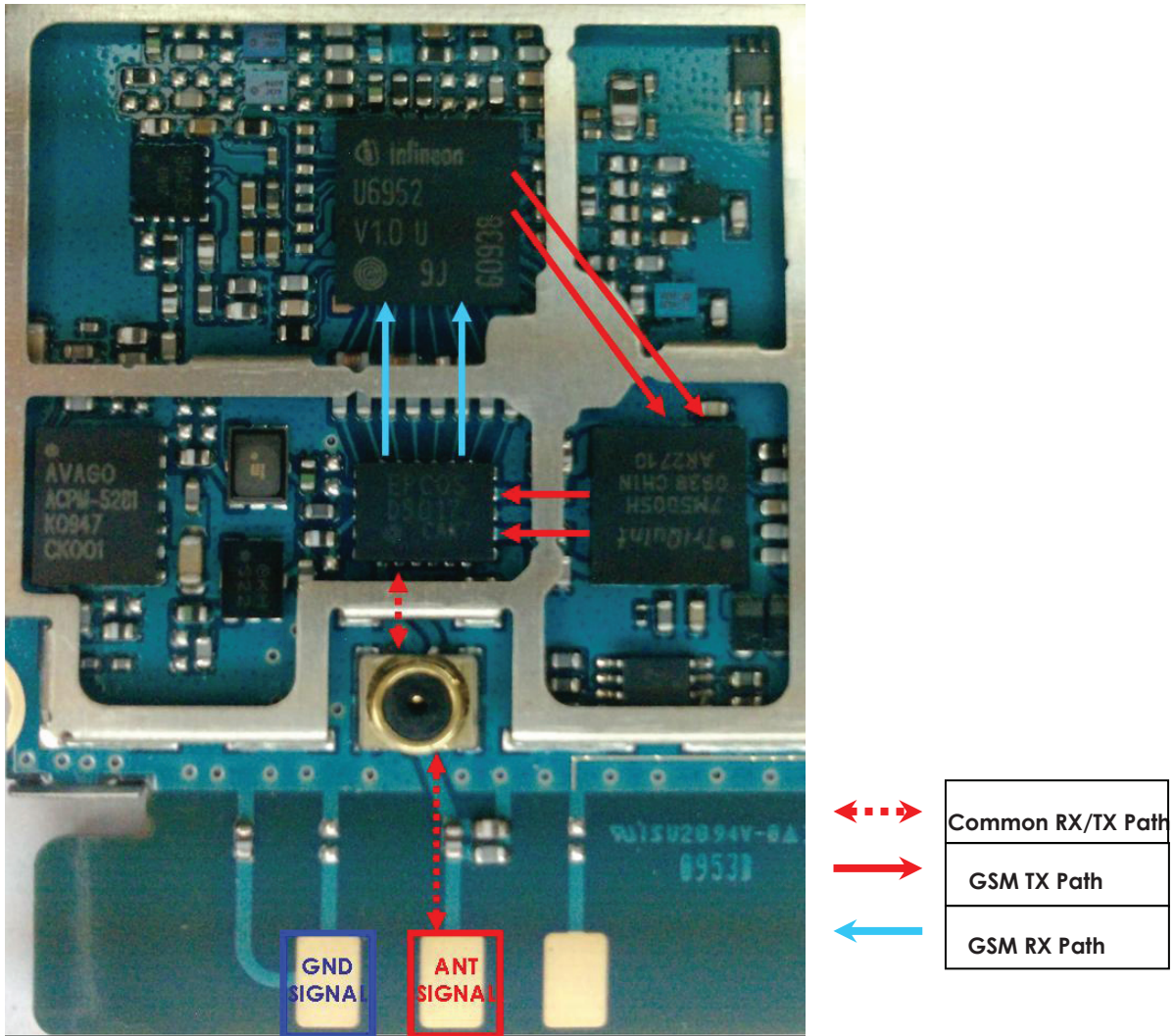
5.13 RF SIGNAL PATH

5.13.1 UMTS PATH



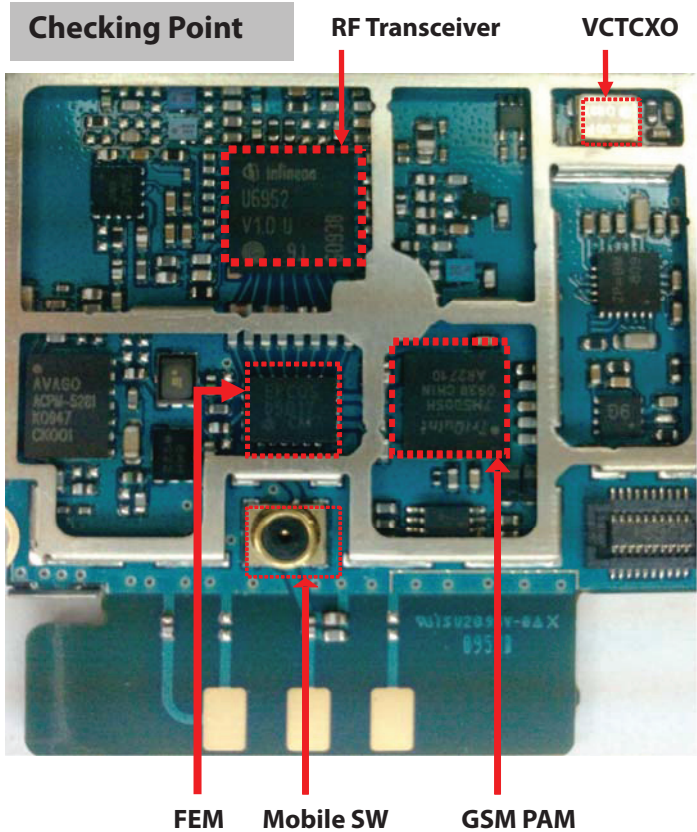
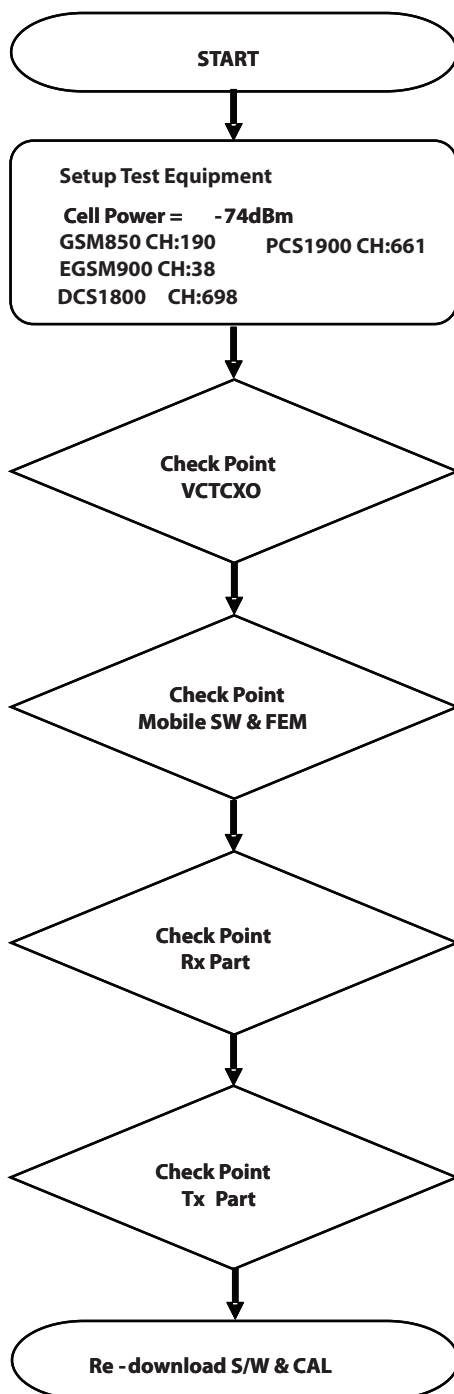
5. TROUBLE SHOOTING

5.13.2 GSM PATH



5.14 Trouble Shooting of GSM Part (GSM850/900/DCS1800/ PCS1900)

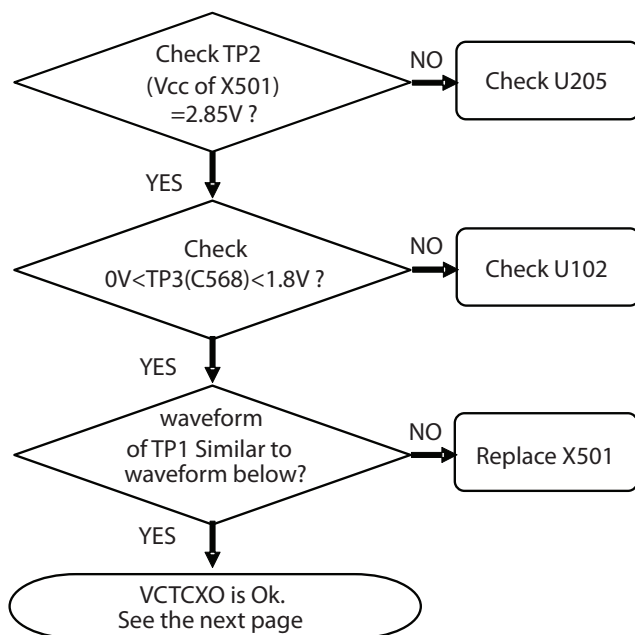
Checking Flow



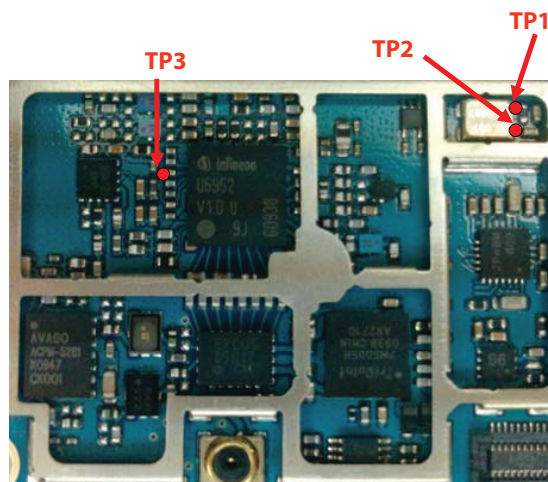
5. TROUBLE SHOOTING

5.14.1 Checking VCTCXO Circuit

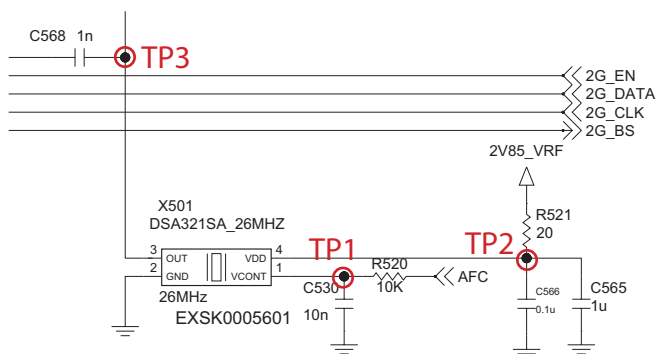
Checking Flow



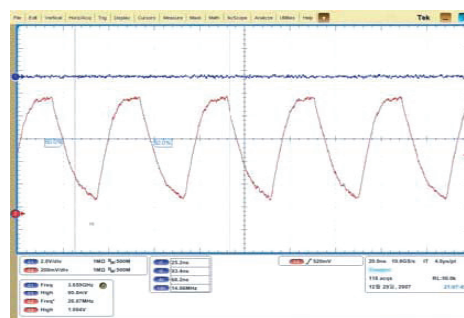
Checking Points



VCTCXO Circuit Diagram

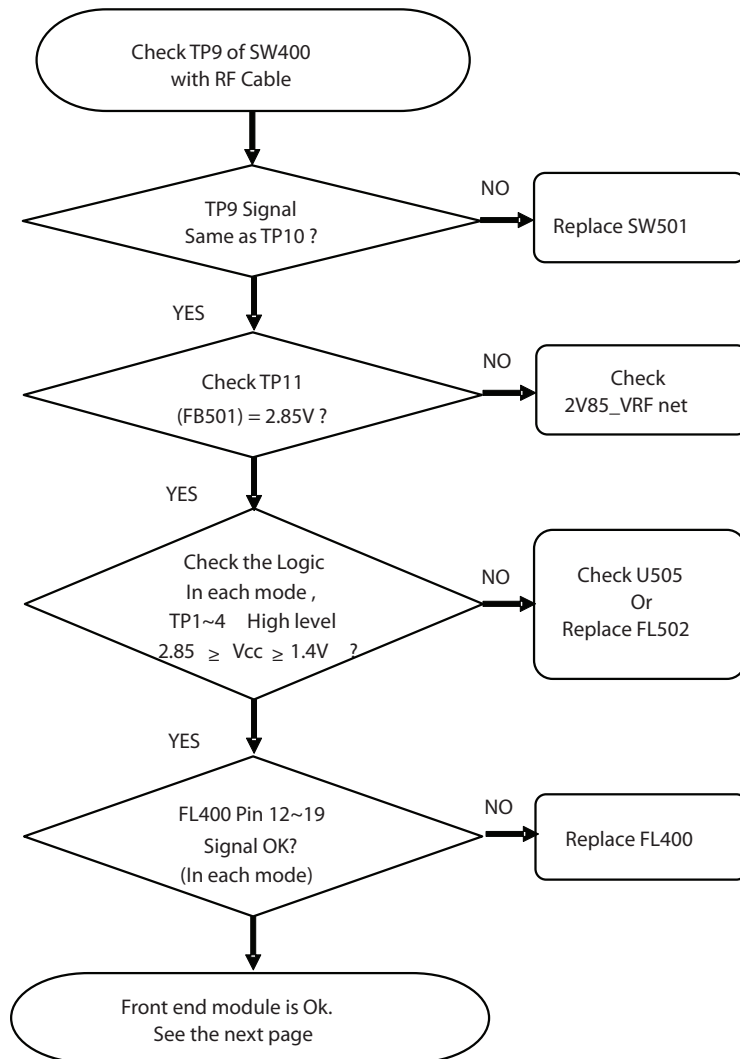


Waveform



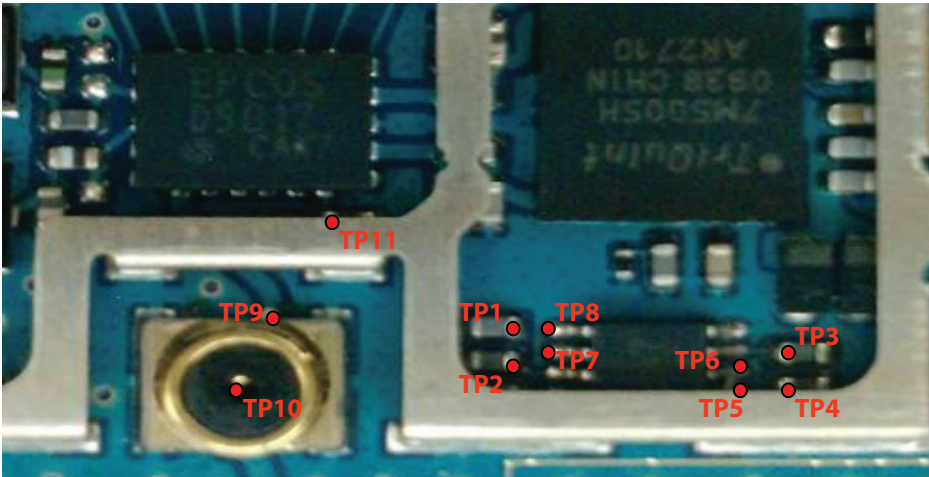
5.14.2 Checking Front-End Module Block

Checking Flow

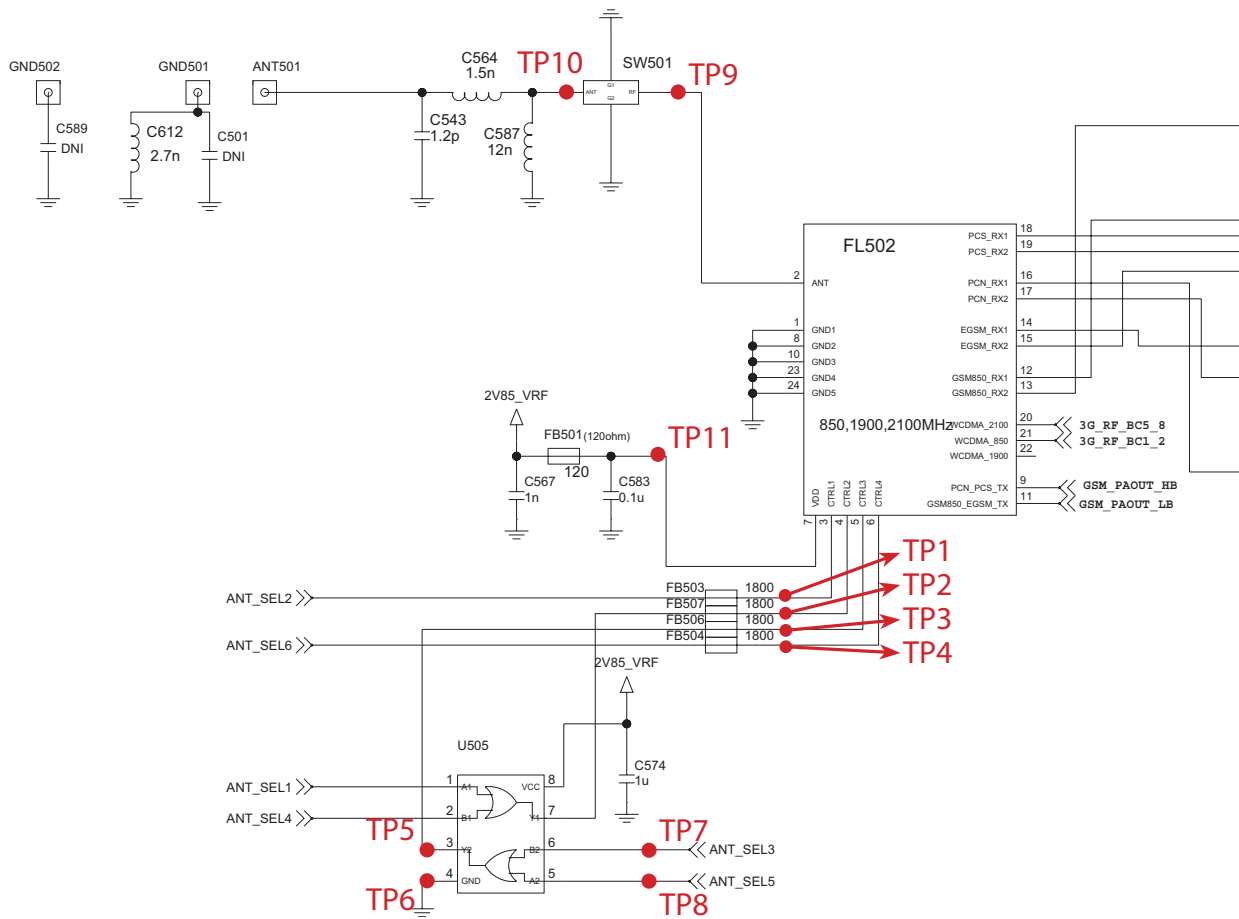


5. TROUBLE SHOOTING

Checking Points



Mobile Switch & FEM circuit Diagram

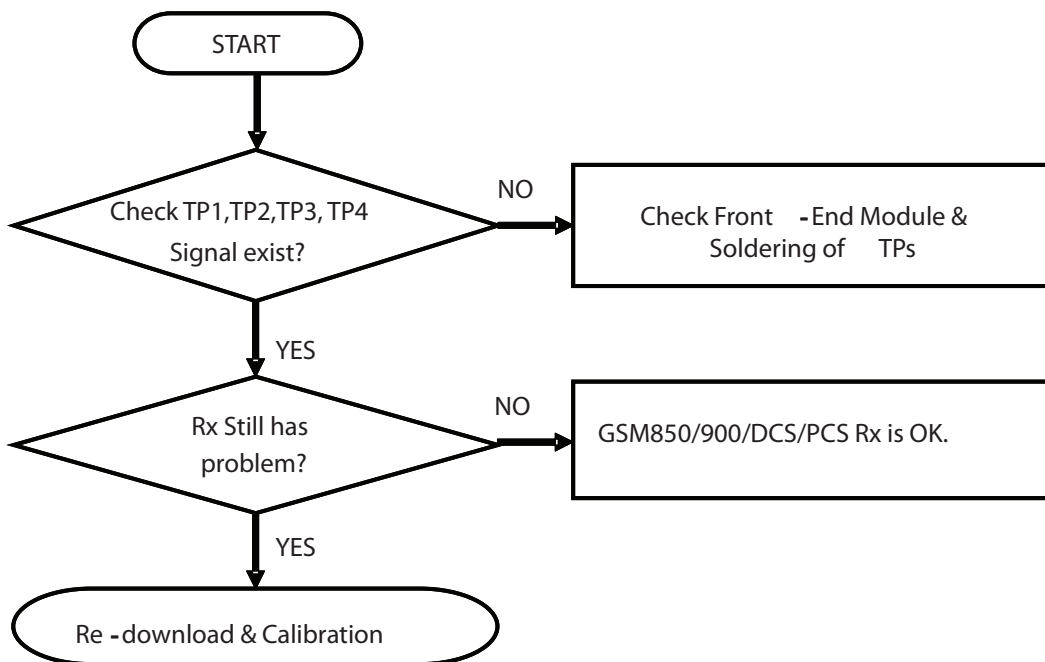


	VC1 (TP1)	VC2 (TP2)	VC3 (TP3)	VC4 (TP4)	ANT_SEL1 (TP6)	ANT_SEL2	ANT_SEL3 (TP8)	ANT_SEL4 (TP7)	ANT_SEL5 (TP9)	ANT_SEL6
850/900Tx	1	0	0	0	0	1	0	0	0	0
1800/1900Tx	1	1	0	0	1	1	0	0	0	0
850 Rx	0	1	1	0	1	0	1	0	0	0
900 Rx	0	0	1	0	0	0	1	0	0	0
1800 Rx	0	0	0	0	0	0	0	0	0	0
1900 Rx	0	1	0	0	1	0	0	0	0	0
UMTS1	0	0	0	1	0	0	0	0	0	1
UMTS2	0	1	0	1	0	0	0	1	0	1
UMTS3	0	0	1	1	0	0	0	0	1	1

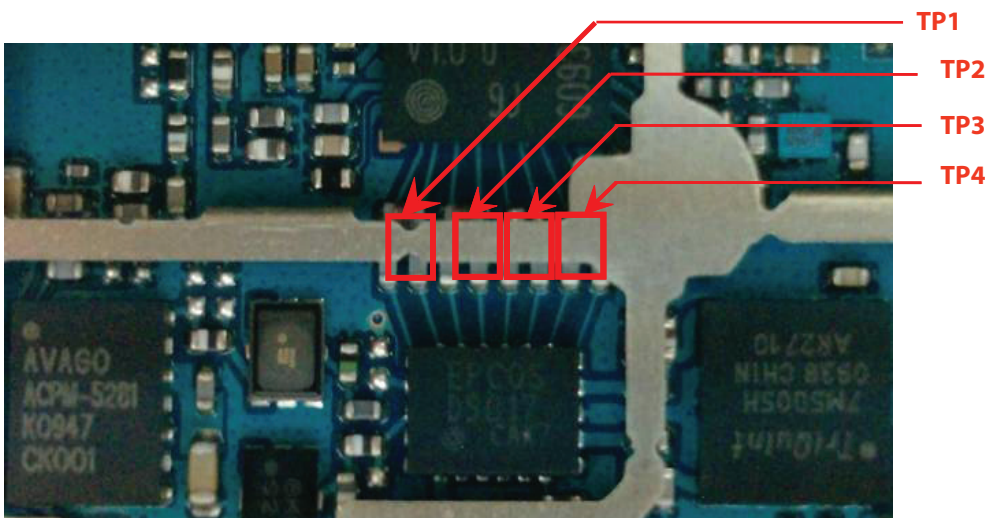
5. TROUBLE SHOOTING

5.14.3 Checking GSM Rx part

Checking Flow

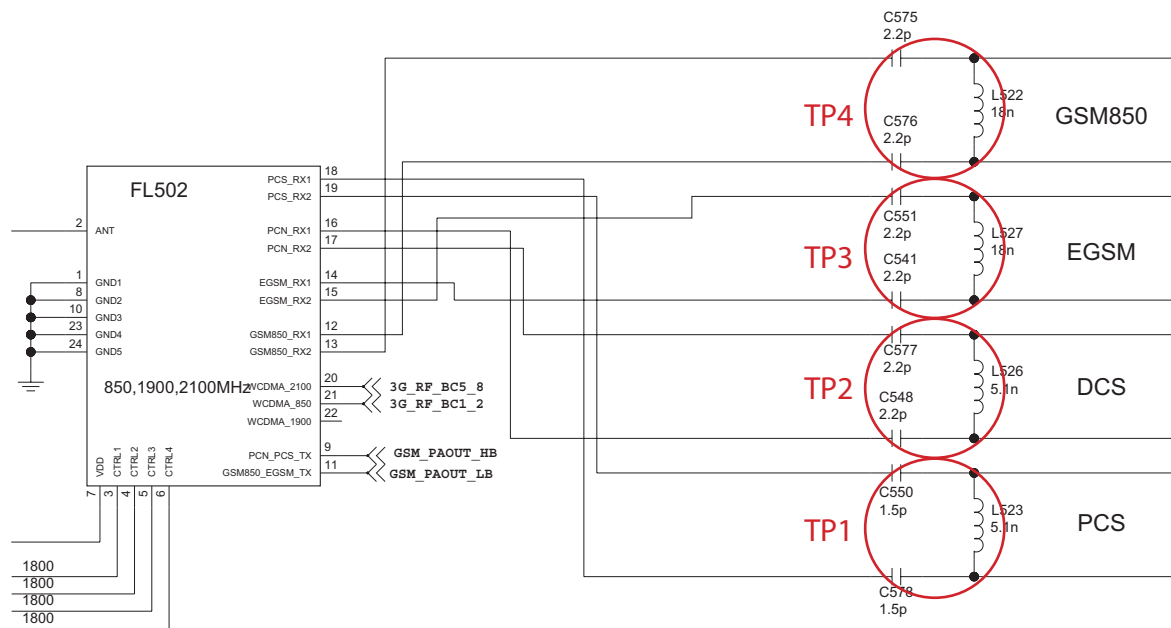


Checking Point



5. TROUBLE SHOOTING

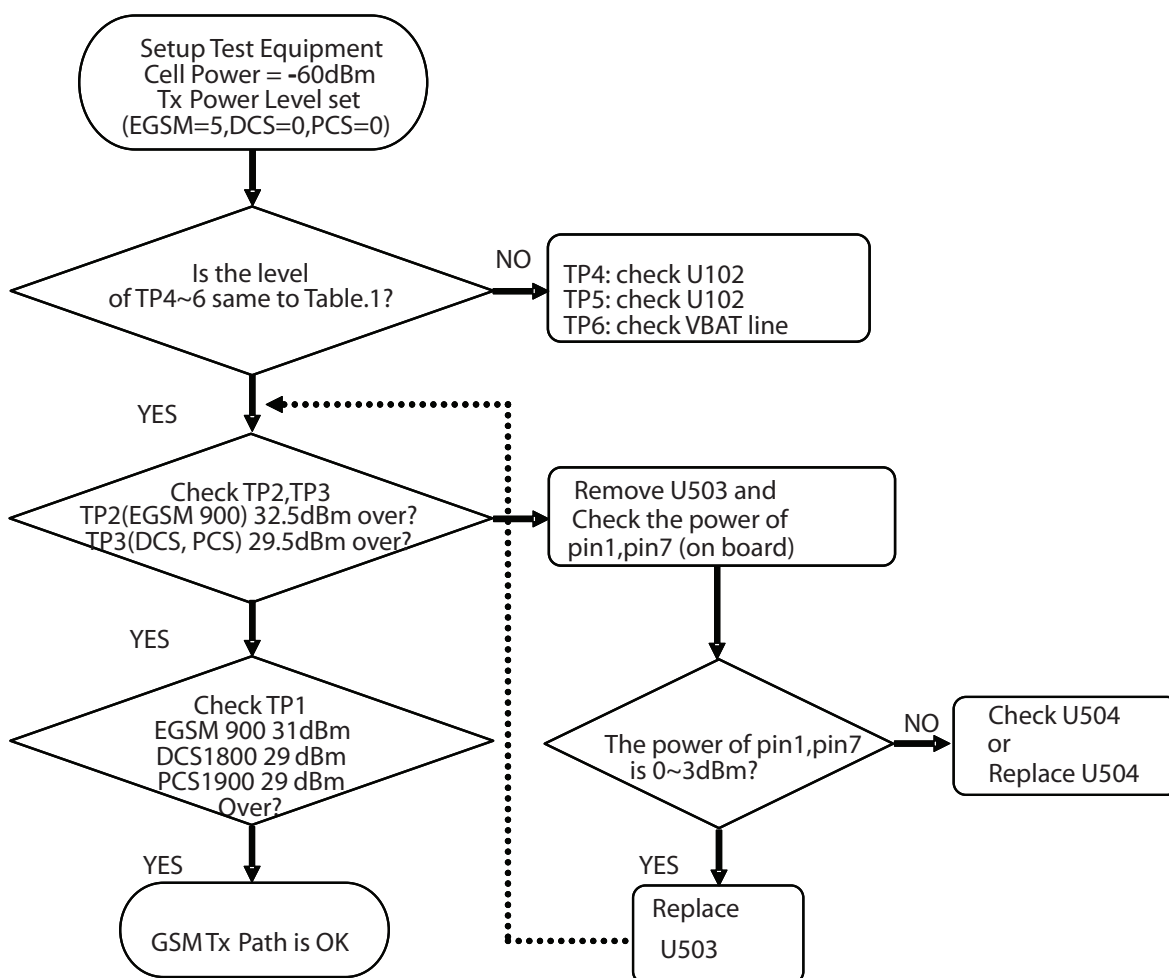
Rx path circuit diagram



5. TROUBLE SHOOTING

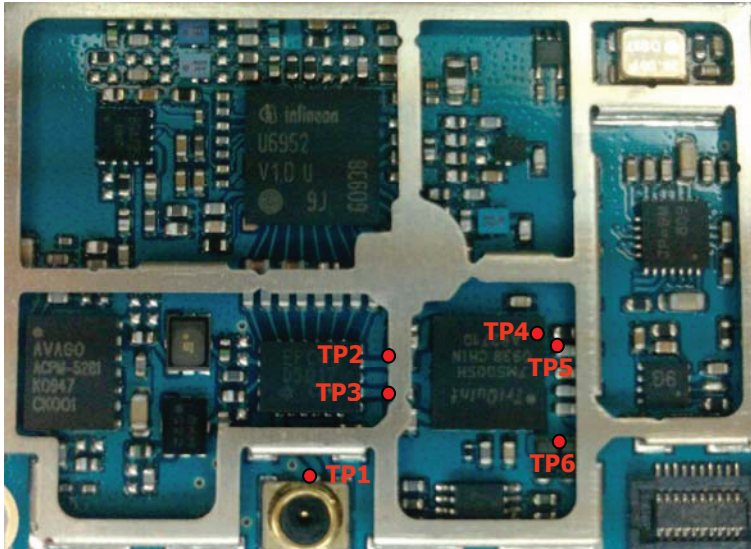
5.14.4 Checking GSM Tx part

Checking Flow

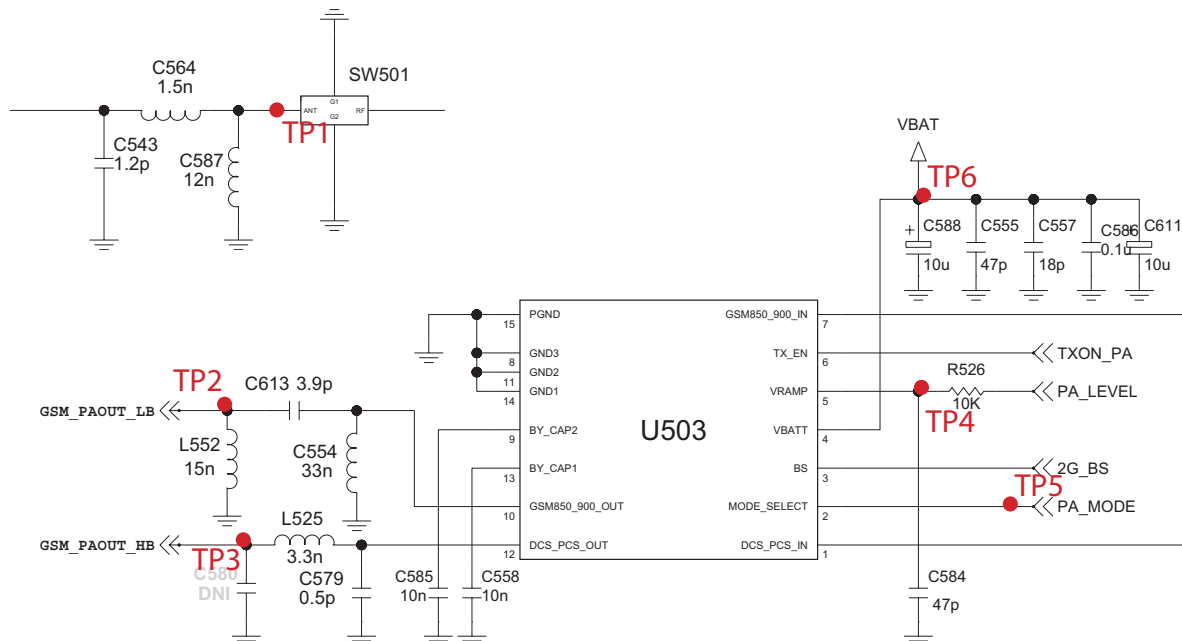


5. TROUBLE SHOOTING

Checking Point



GSM PAM Circuit Diagram

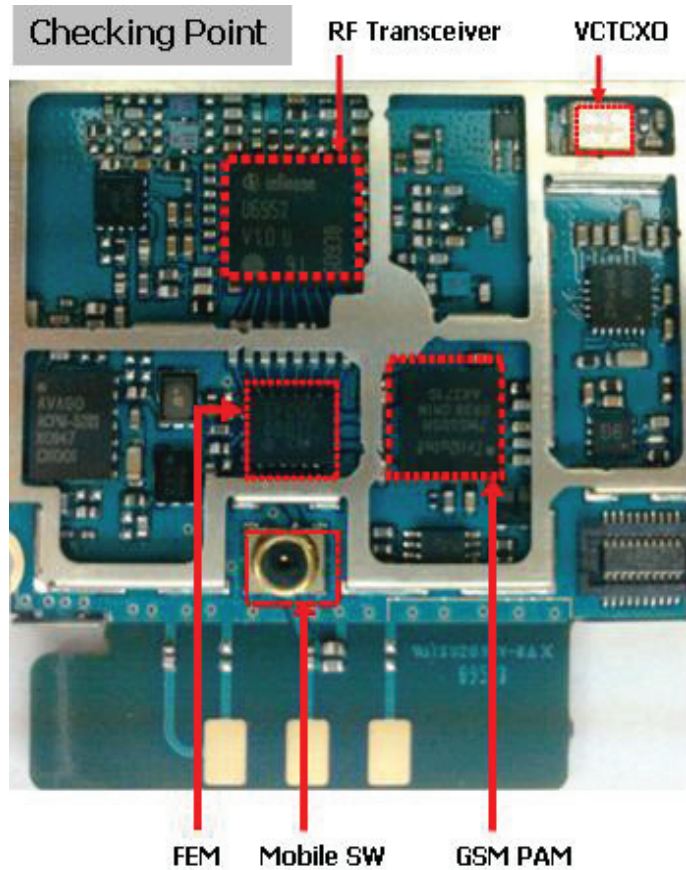
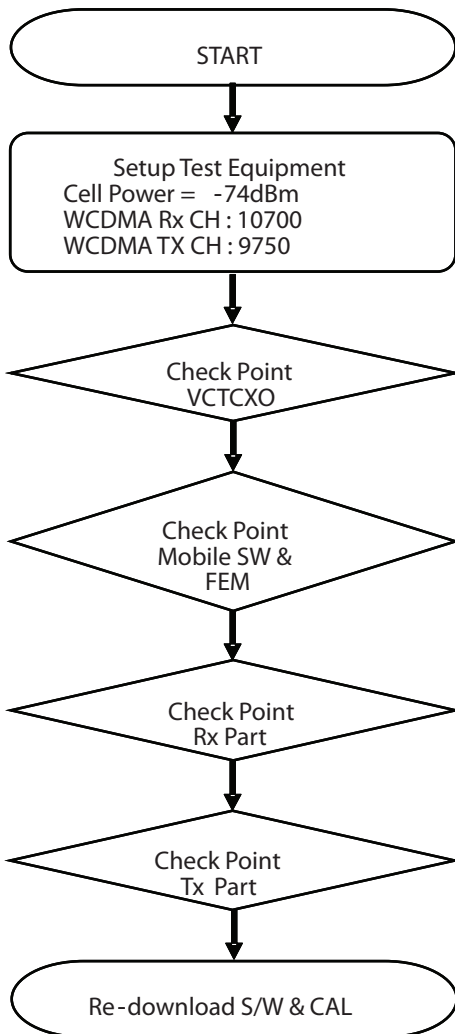


5. TROUBLE SHOOTING

Test Point	Net name	Description
TP5	PA_LEVEL	Power Amp Gain Control. Typically, 0.2 ~1.6V
TP4	TXON_PA	Power Amp Enable (ON : >1.25V, OFF : <0.5V)
TP6	VBAT	PAM Supply Voltage (Vcc > 3V)

5.15 Trouble Shooting of WCDMA Part

Checking Flow



5.15.1 Checking VCTCXO

Refer to GSM Part (15.16.1)

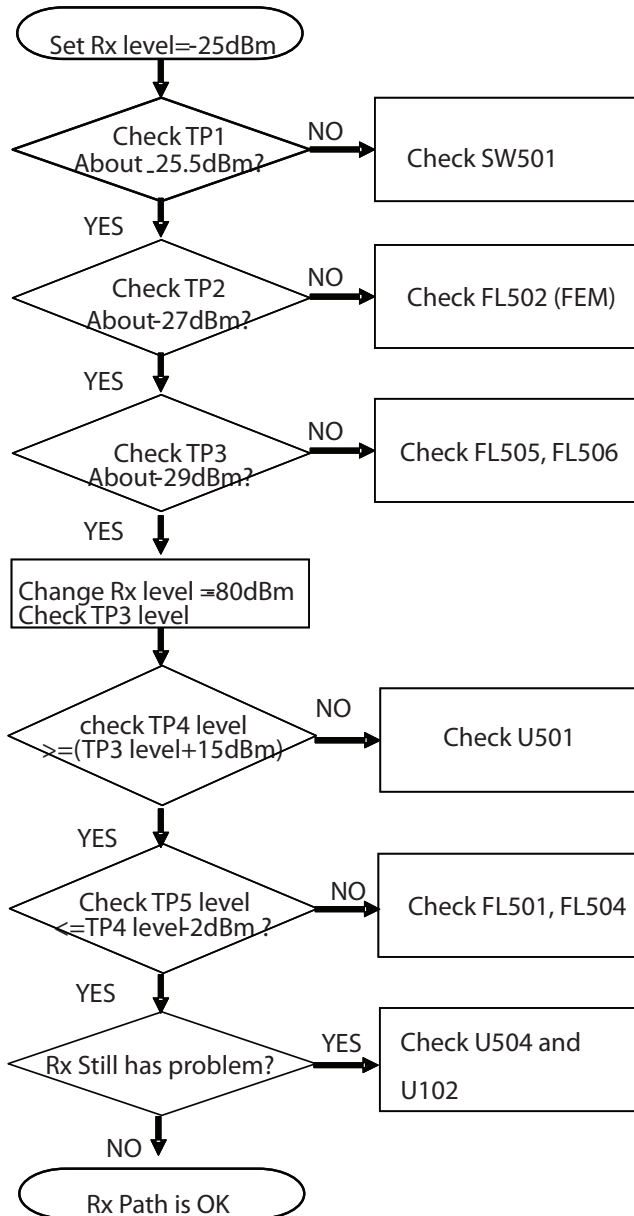
5.15.2 Checking Mobile SW & FEM

Refer to GSM Part (15.16.2)

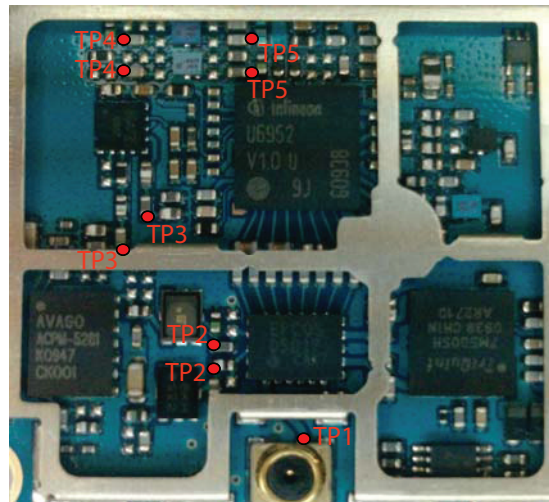
5. TROUBLE SHOOTING

5.15.3 Checking WCDMA Rx part

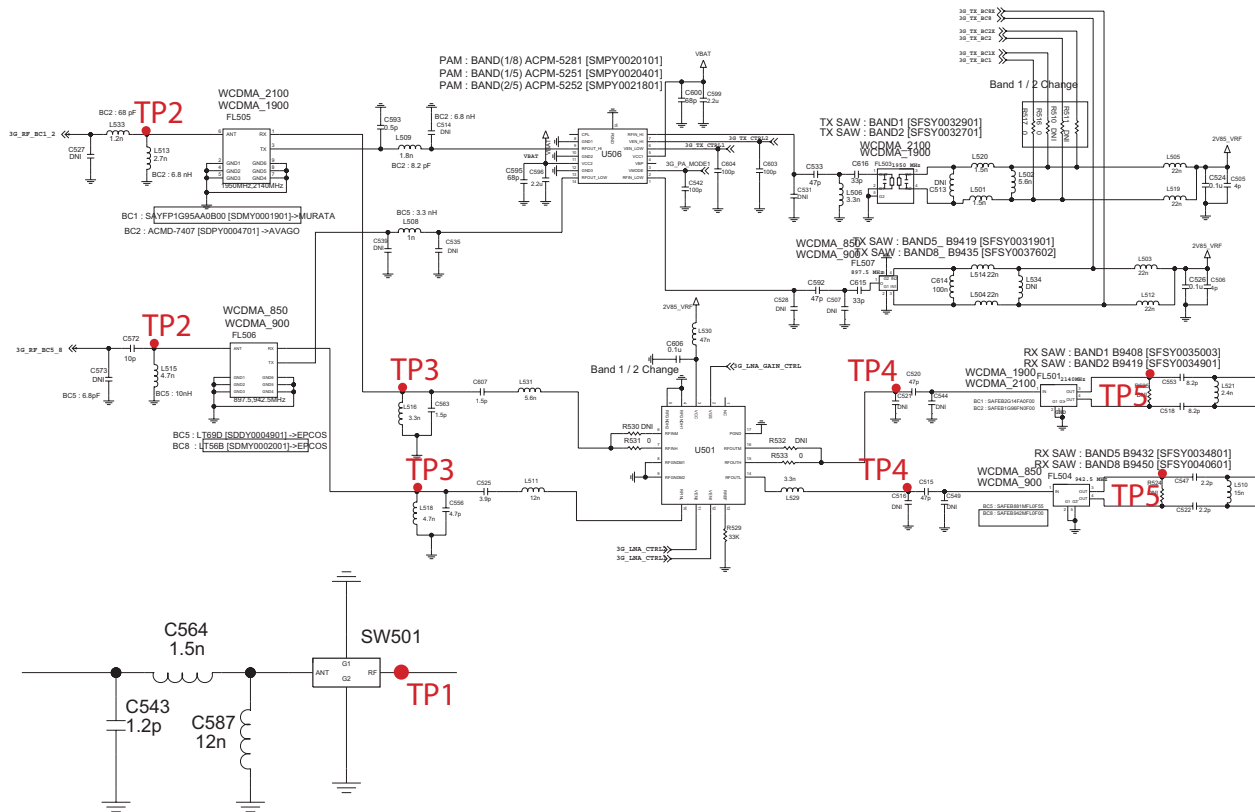
Checking Flow



Checking Point



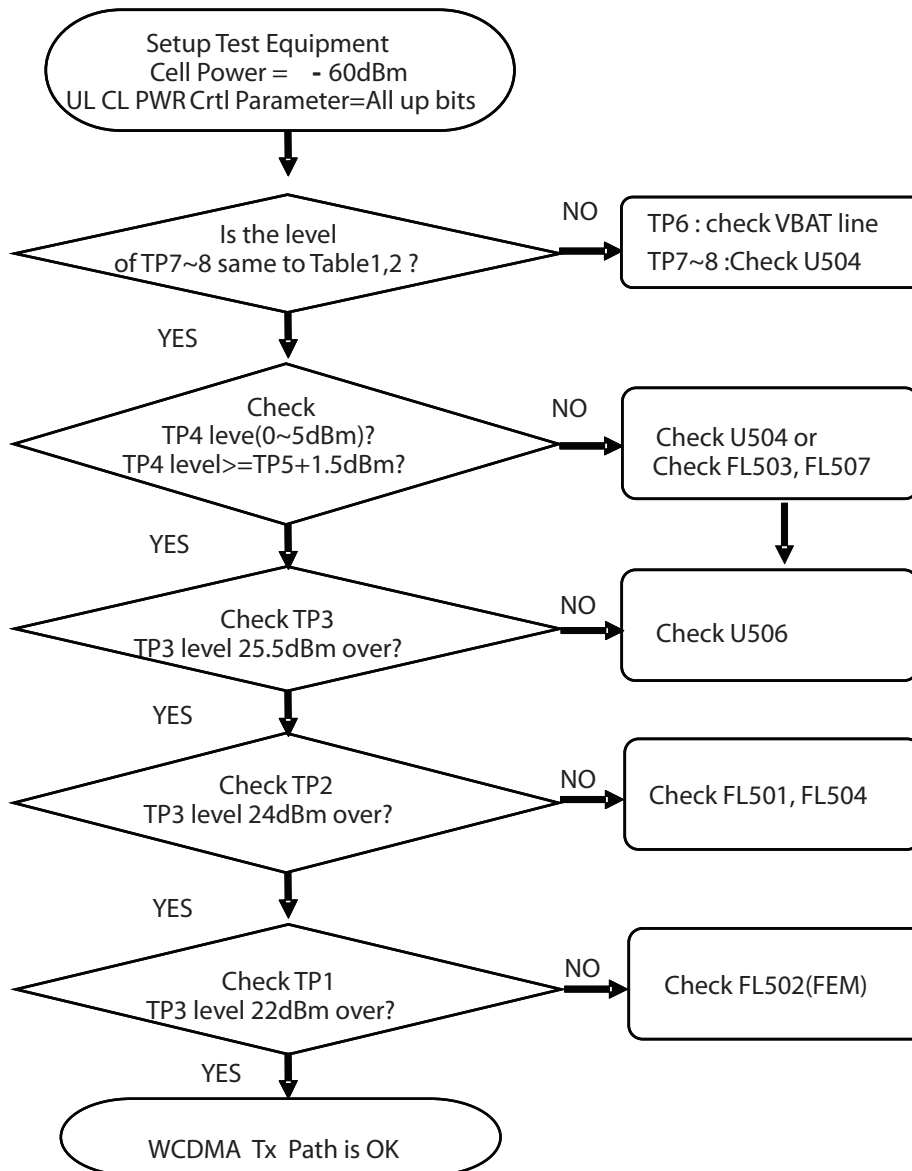
WCDMA Rx Circuit Diagram



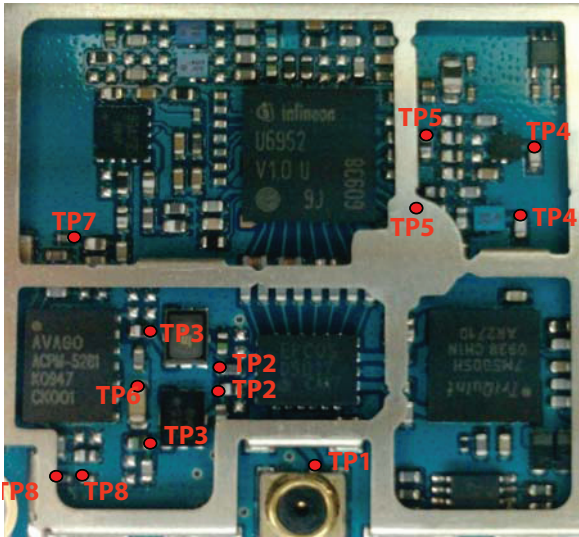
5. TROUBLE SHOOTING

5.15.4 Checking WCDMA TX part

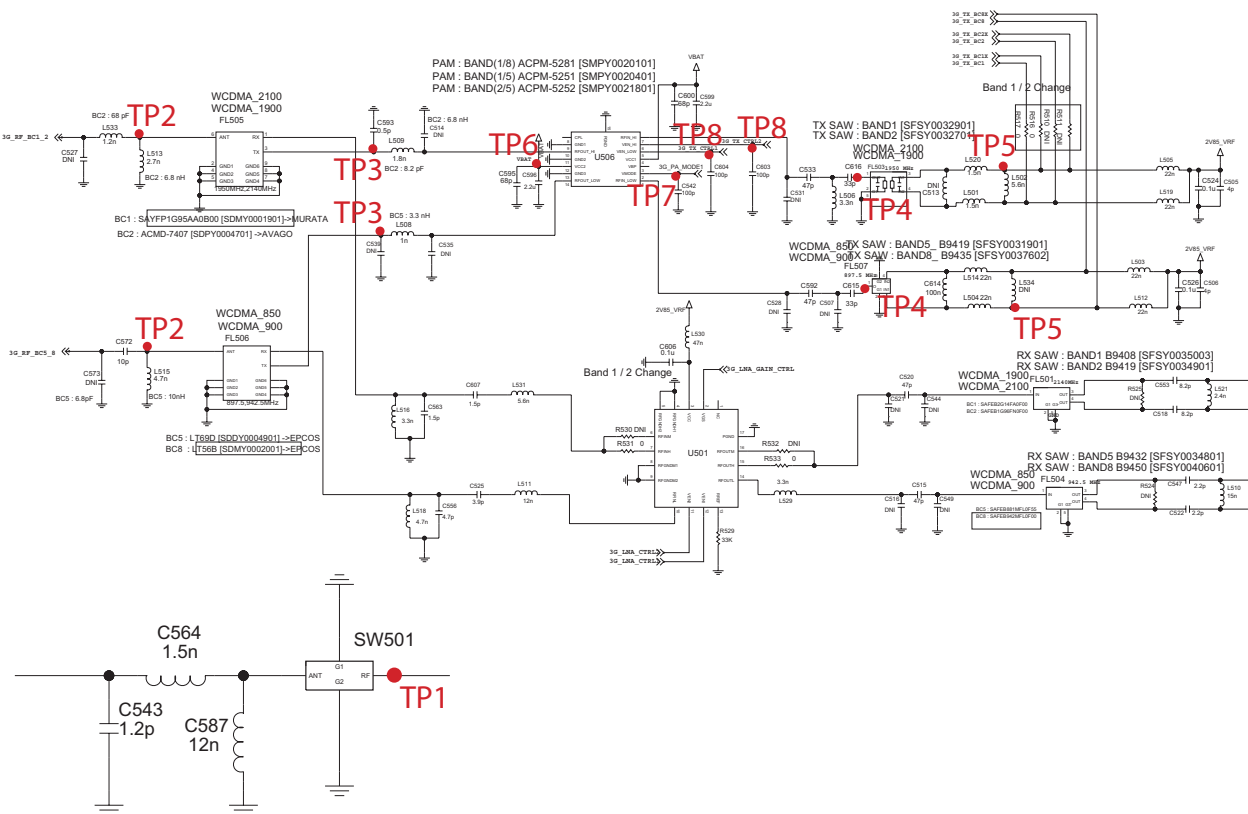
Checking Flow



Checking Point



WCDMA Rx Circuit Diagram



5. TROUBLE SHOOTING

Table 1

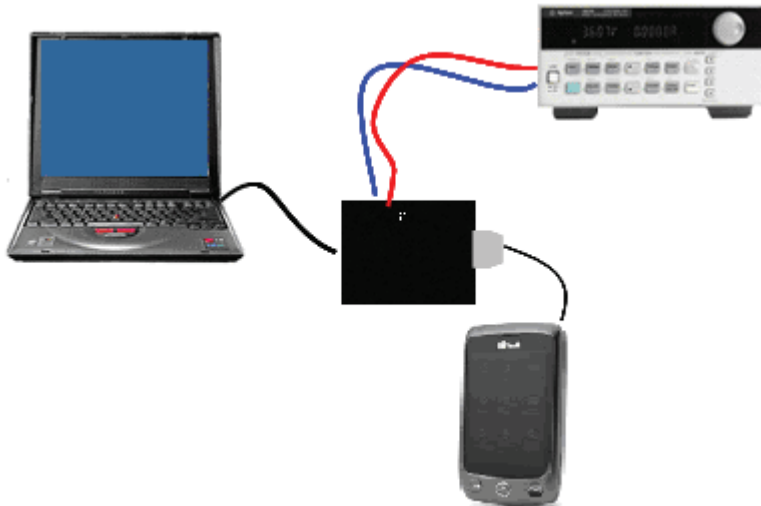
Power Mode	Symbol	Ven (TP8)	Vmode0 (TP7)	Vmode1	Range
High Power Mode	PR3	High	Low	Low	~ 28dBm
Mid Power Mode	PR2	High	High	Low	~ 16dBm
Shut Down Mode	–	Low	–	–	–

Table 2

Test Point	Net name	Description
TP6	VBAT	PAM Supply Voltage (Vcc > 3V)
TP7	3G_PA_MODE1	High (1.9–2.9V), Low (0.0V–0.5V).
TP8	3G_TX_CTRL1 / 2	High (1.9–2.9V), Low (0.0V–0.5V).

6. DOWNLOAD

6.1 S/W download setup



[Figure6.1] S/W download & upgrade setup

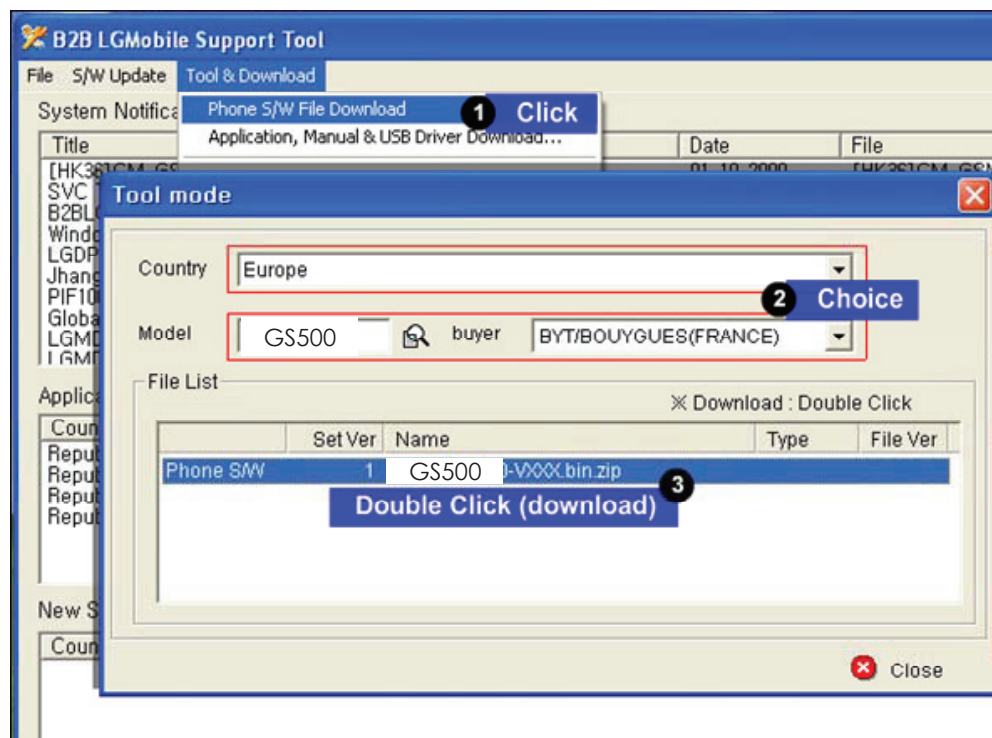
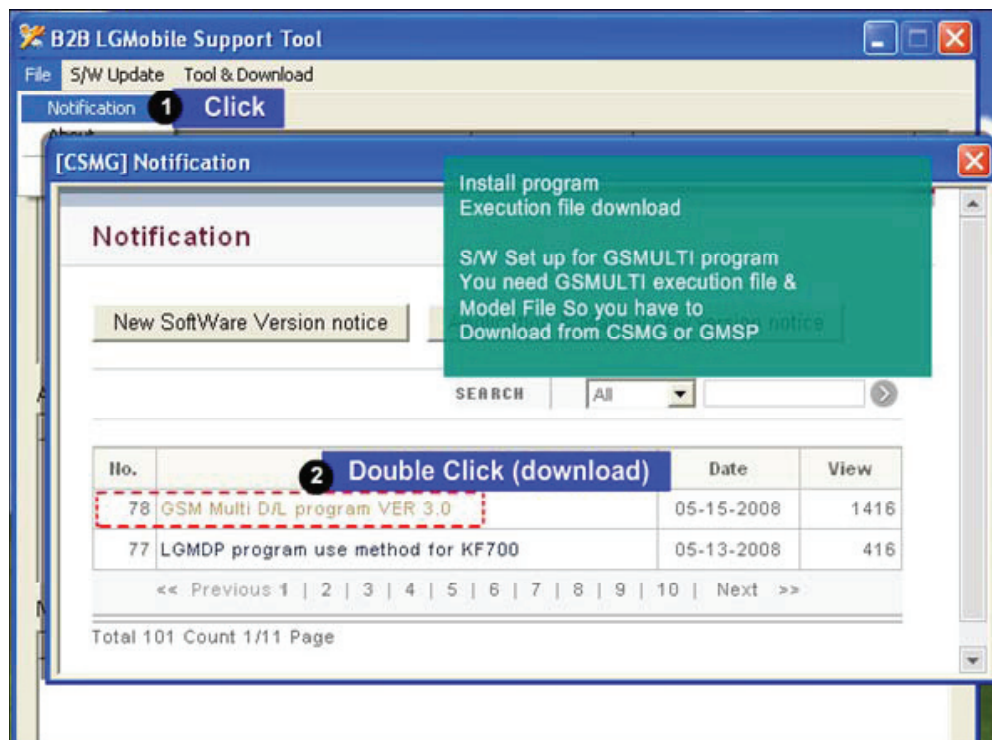
Preparation

- Target terminal
- PIF-Union
- RS-232 Cable and PIF-UNION to Phone interface Cable
- Power Supply or Battery
- PC supporting RS-232 with Windows 2000 or newer.

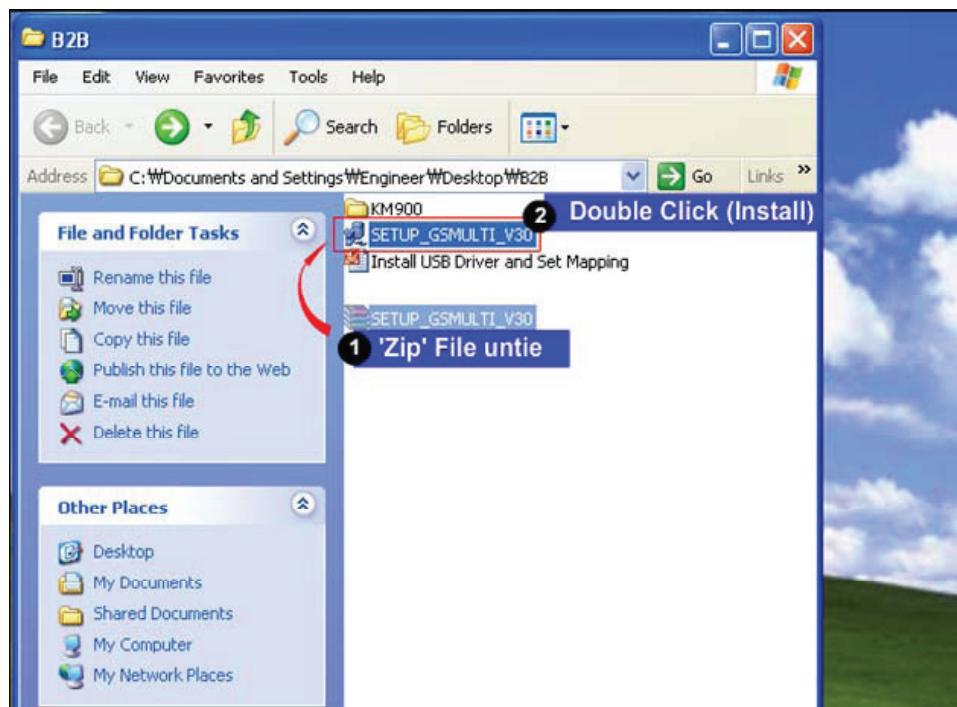
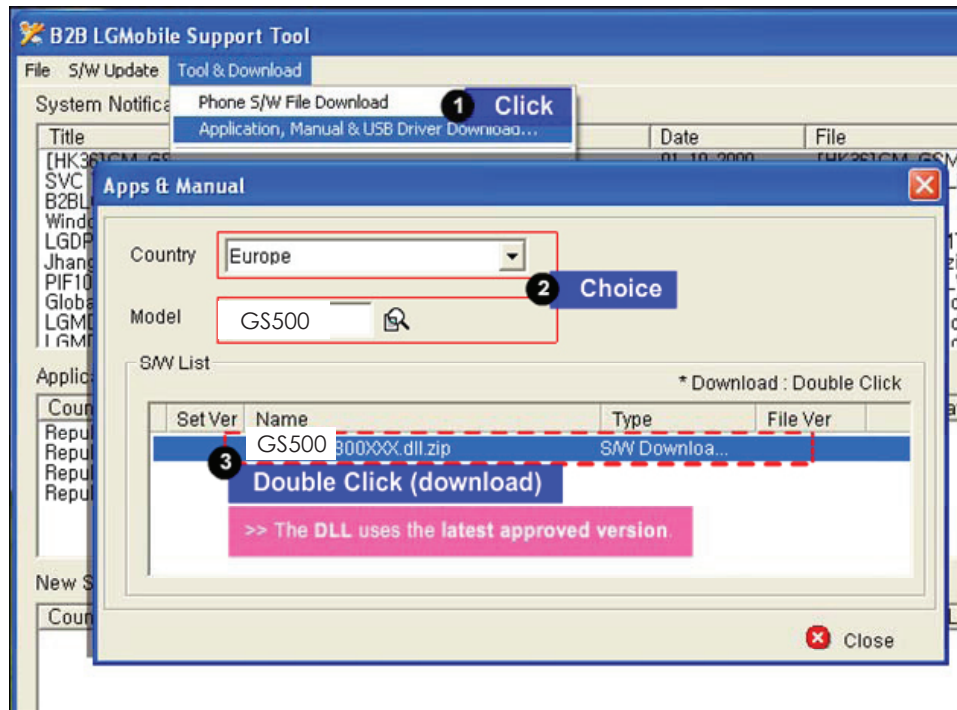
If you are going to use battery, the voltage of the battery should be over 3.7V for stable power supplying during S/W download.

6. DOWNLOAD

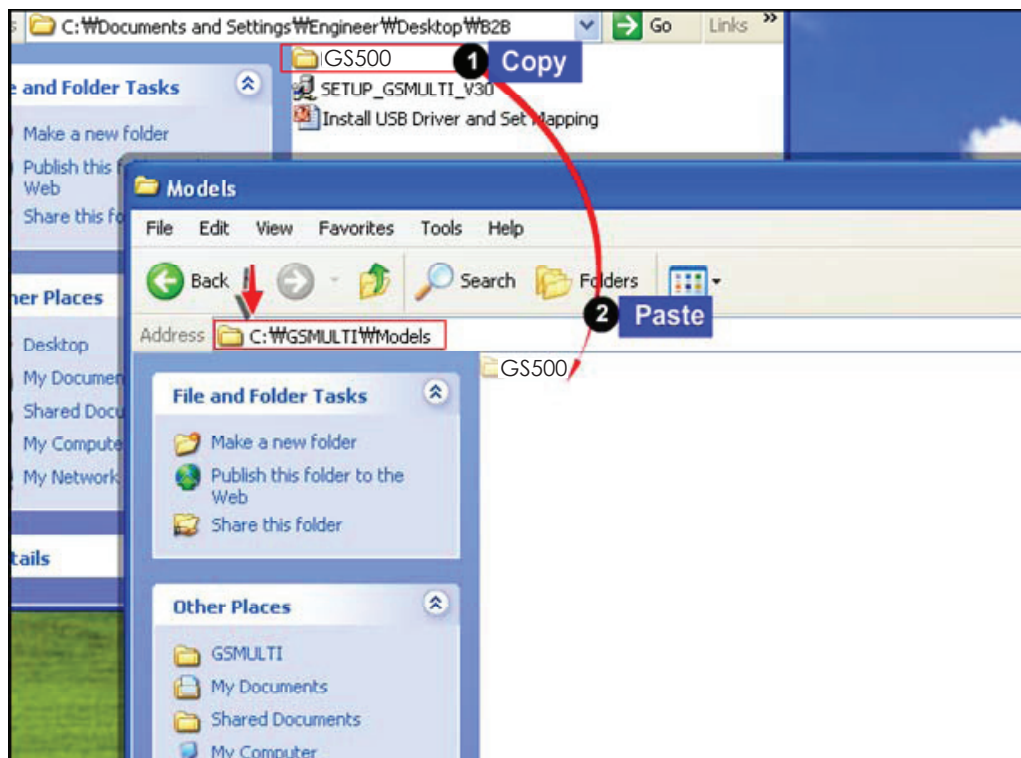
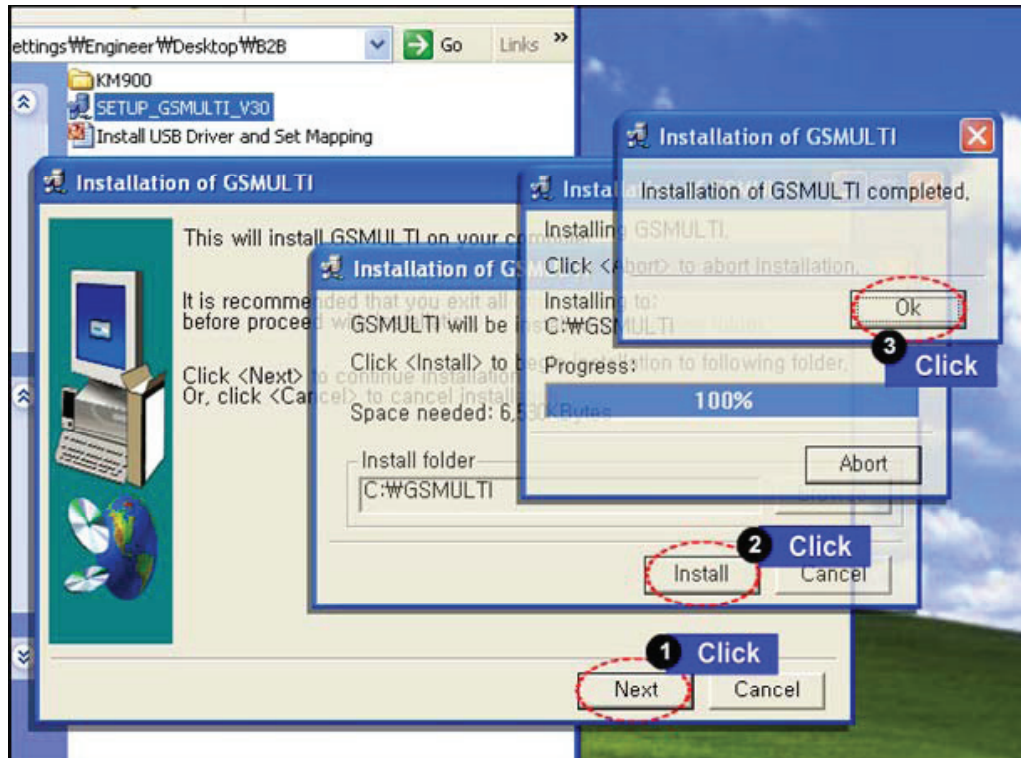
6.2 Download program user guide



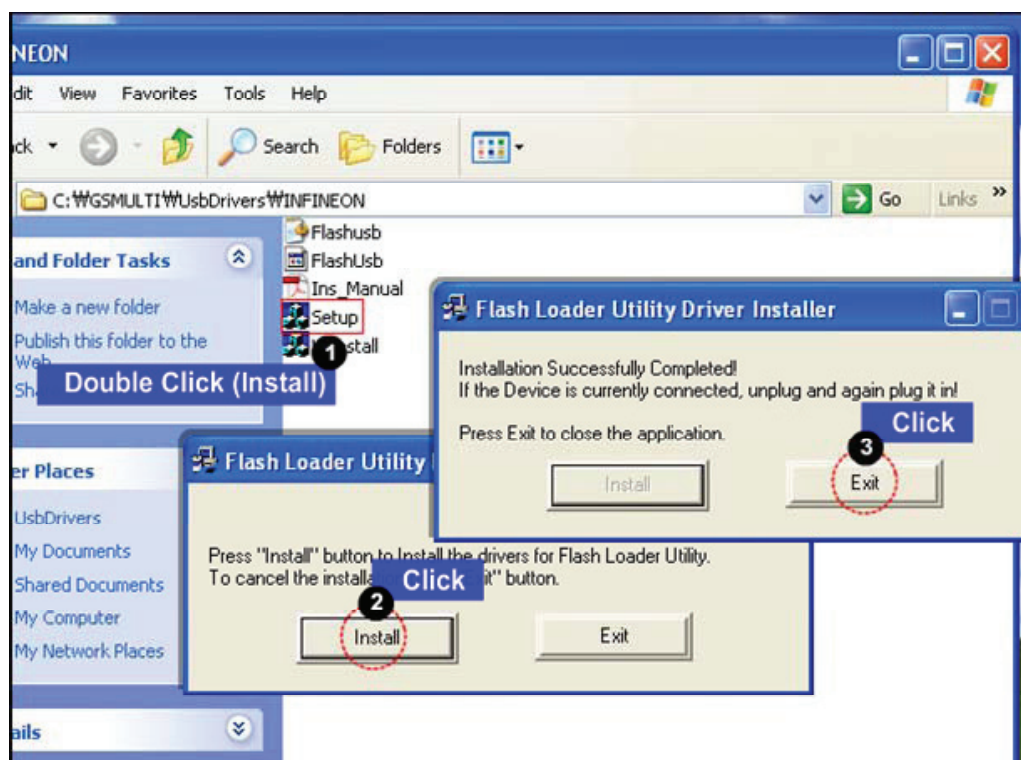
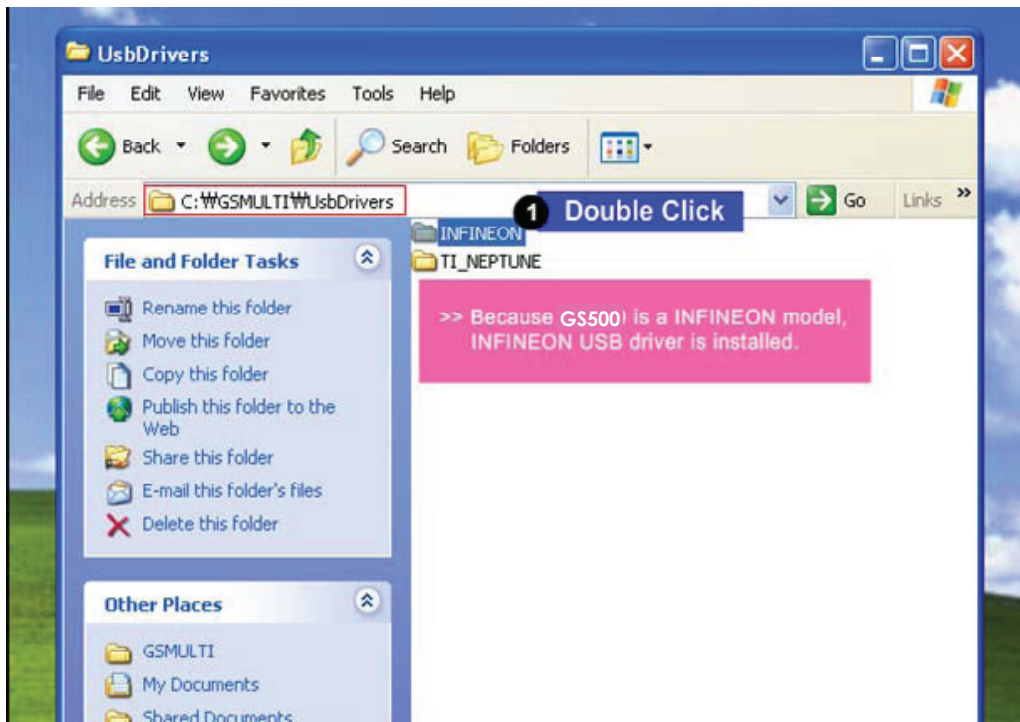
6. DOWNLOAD



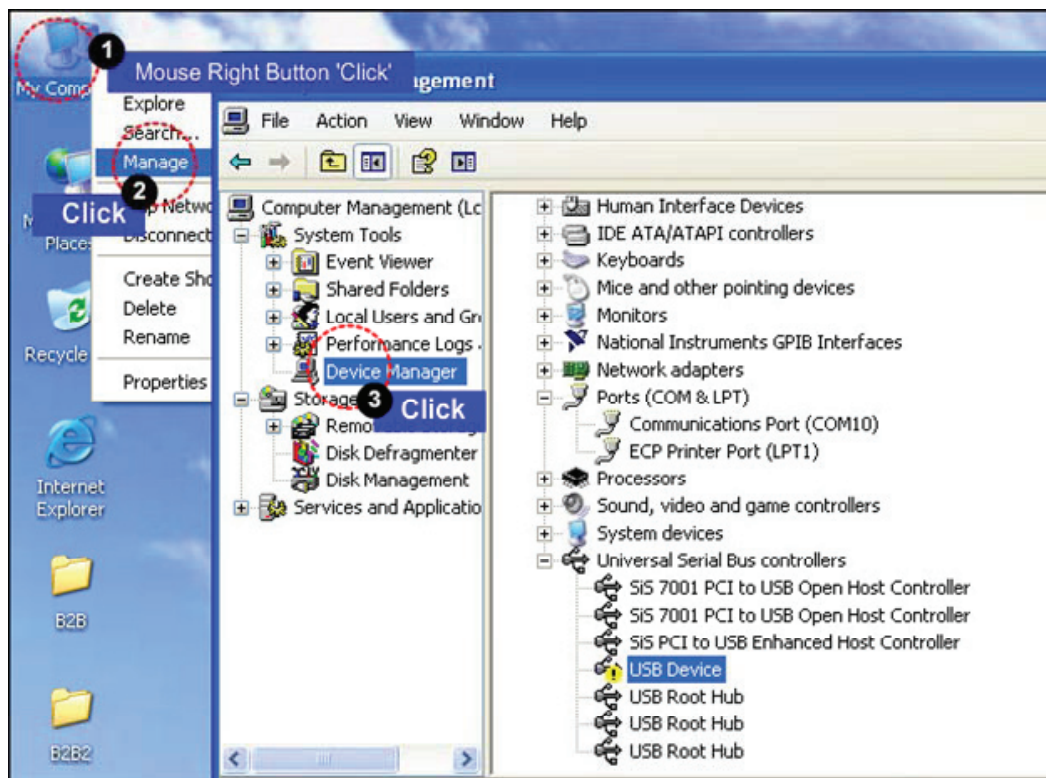
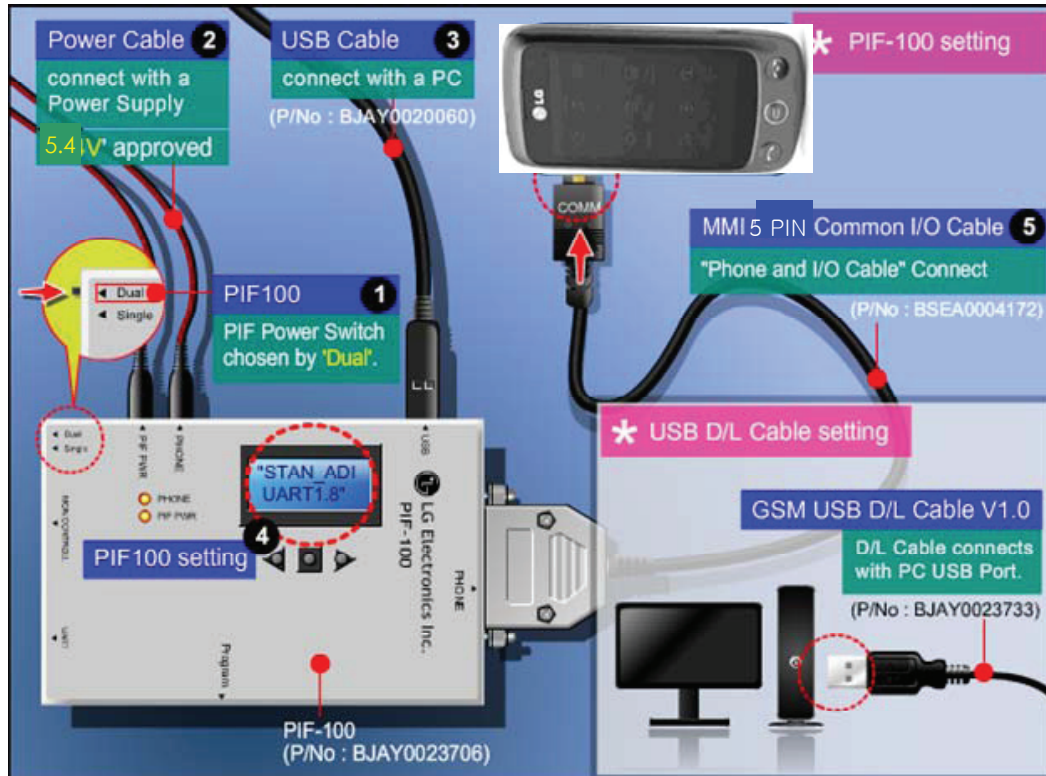
6. DOWNLOAD



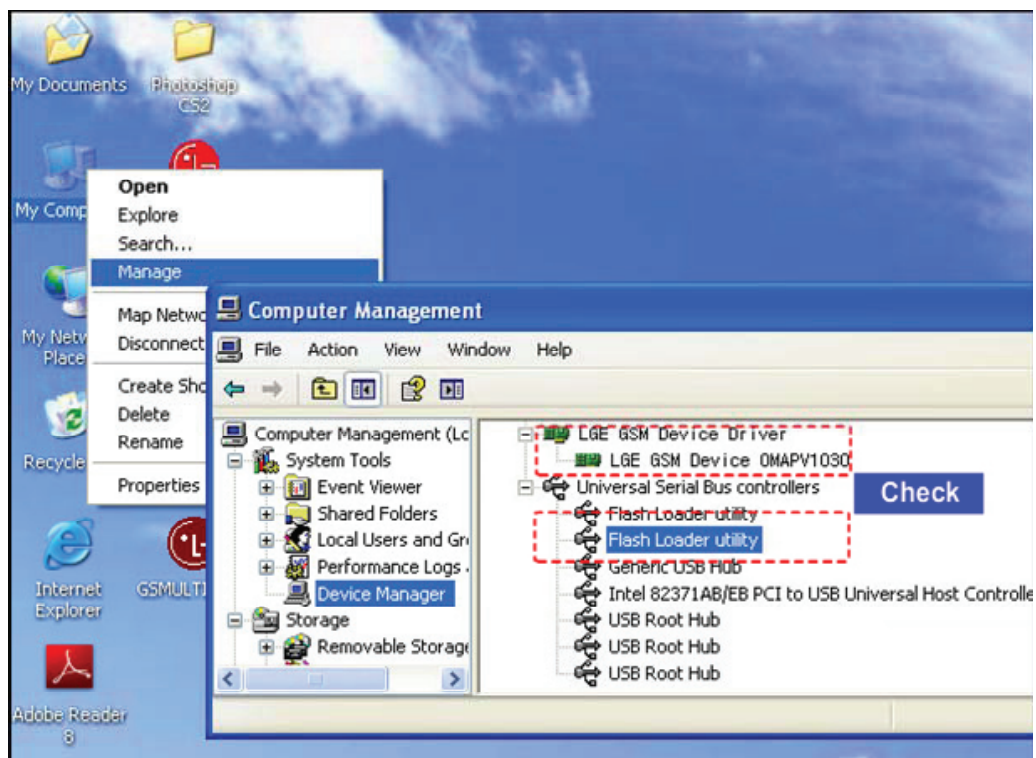
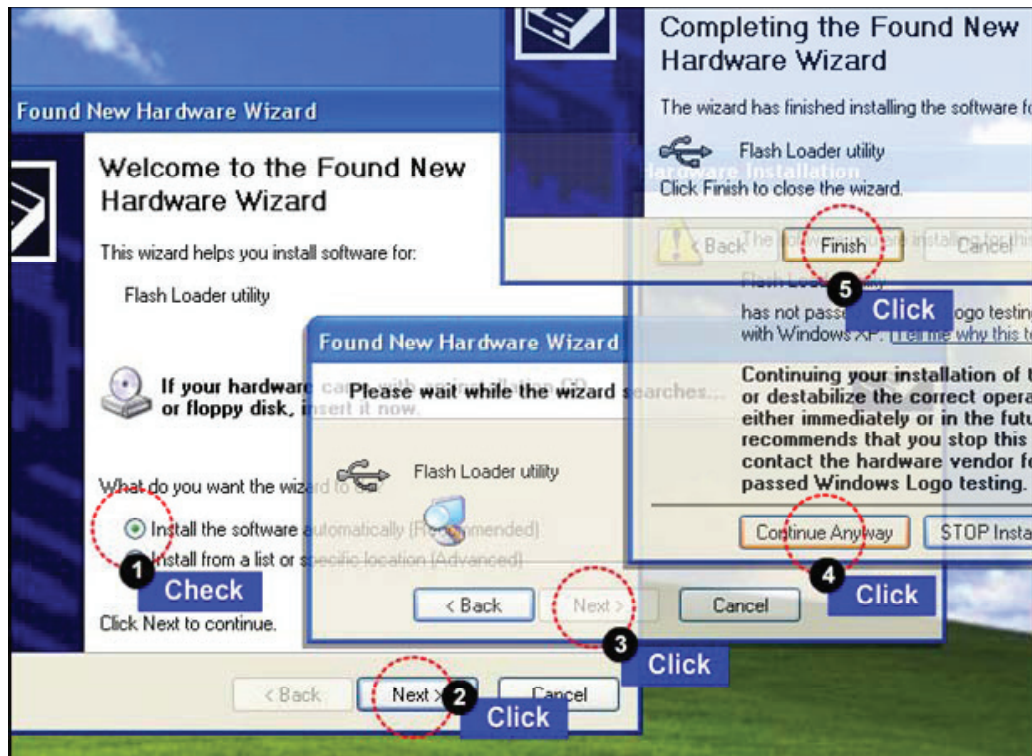
6. DOWNLOAD



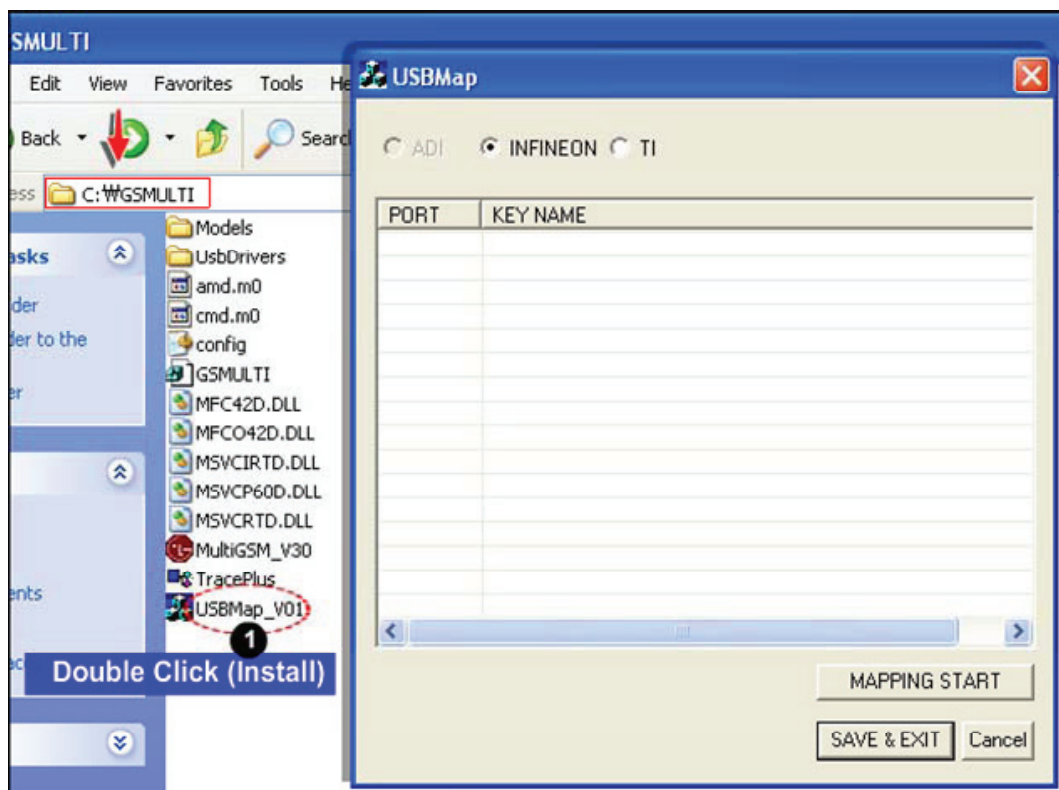
6. DOWNLOAD



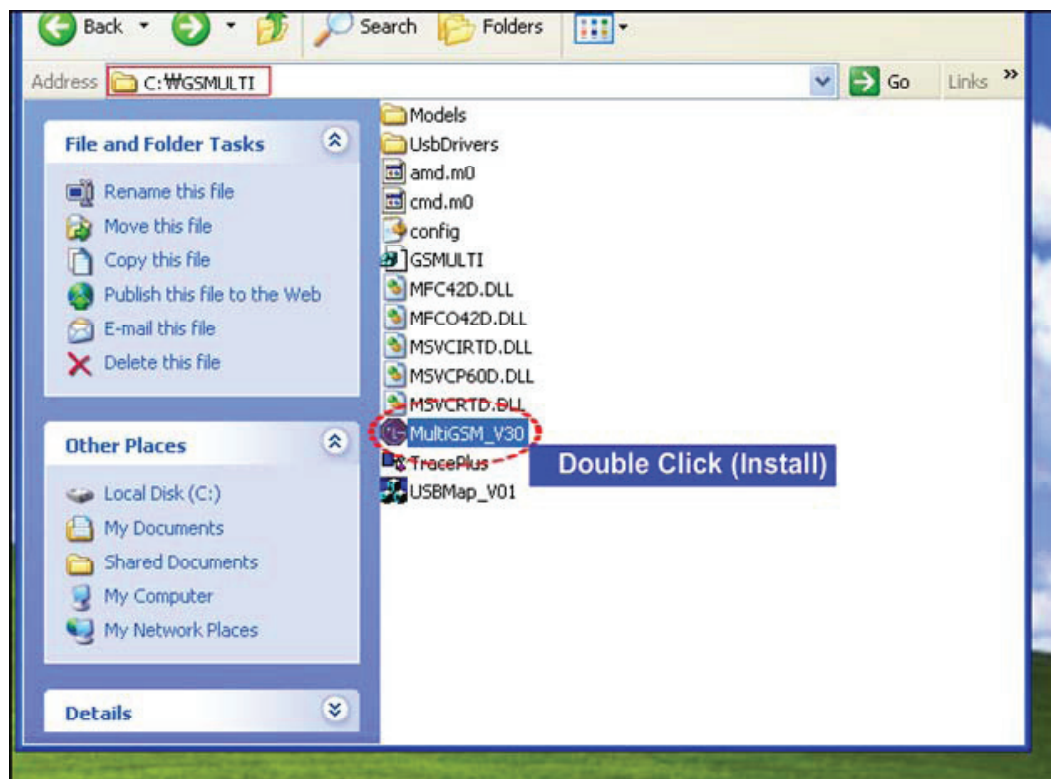
6. DOWNLOAD



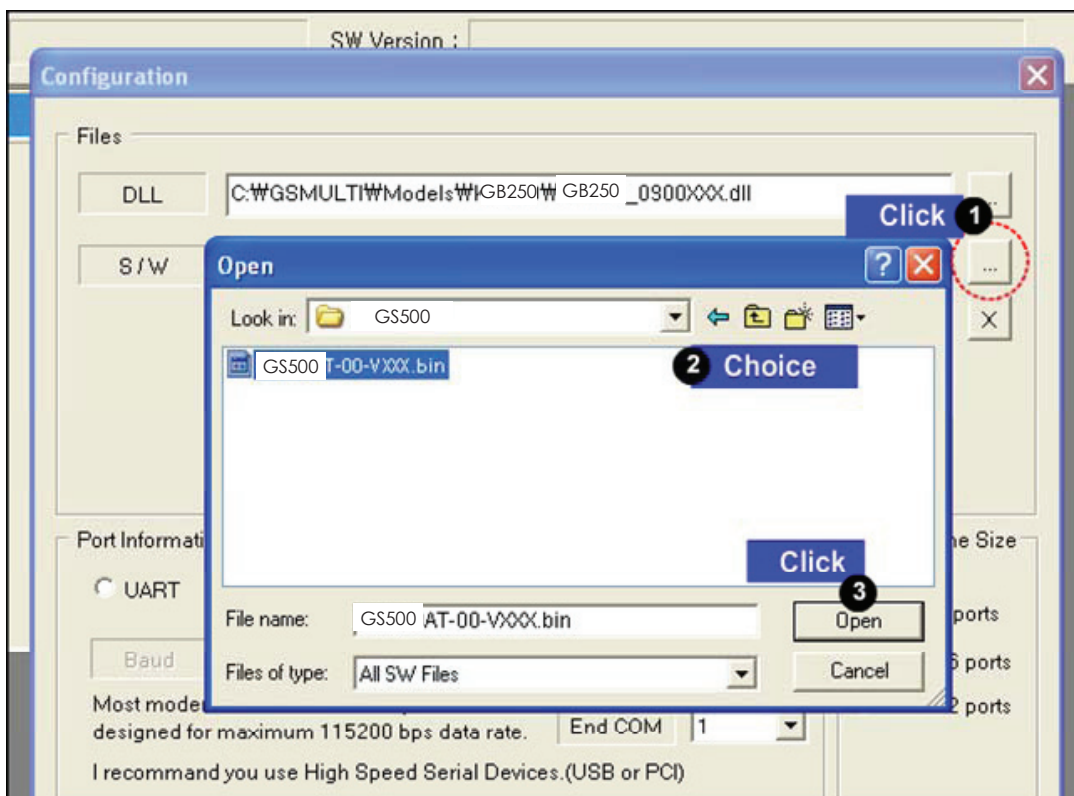
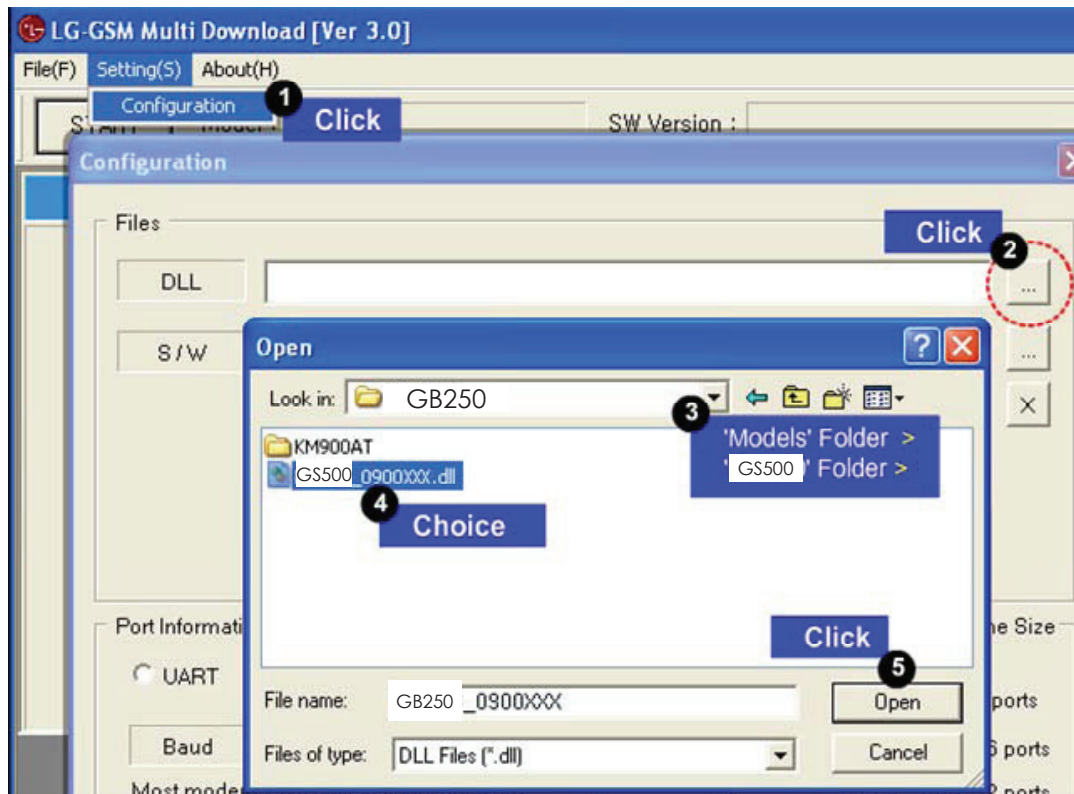
6. DOWNLOAD



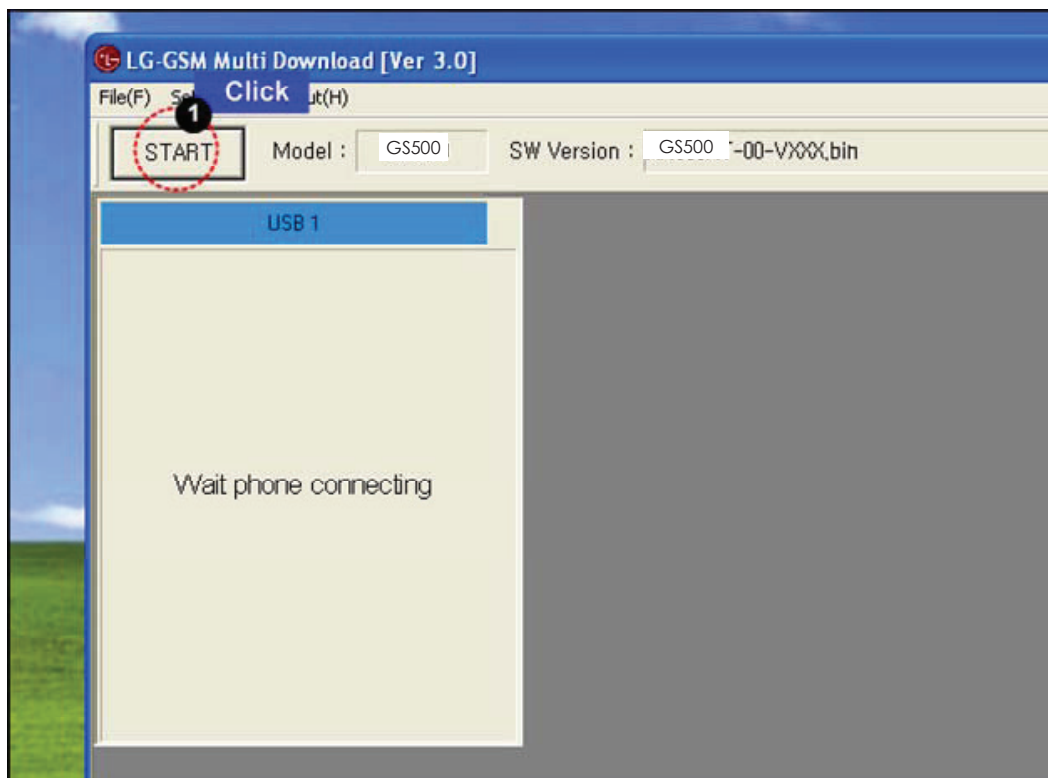
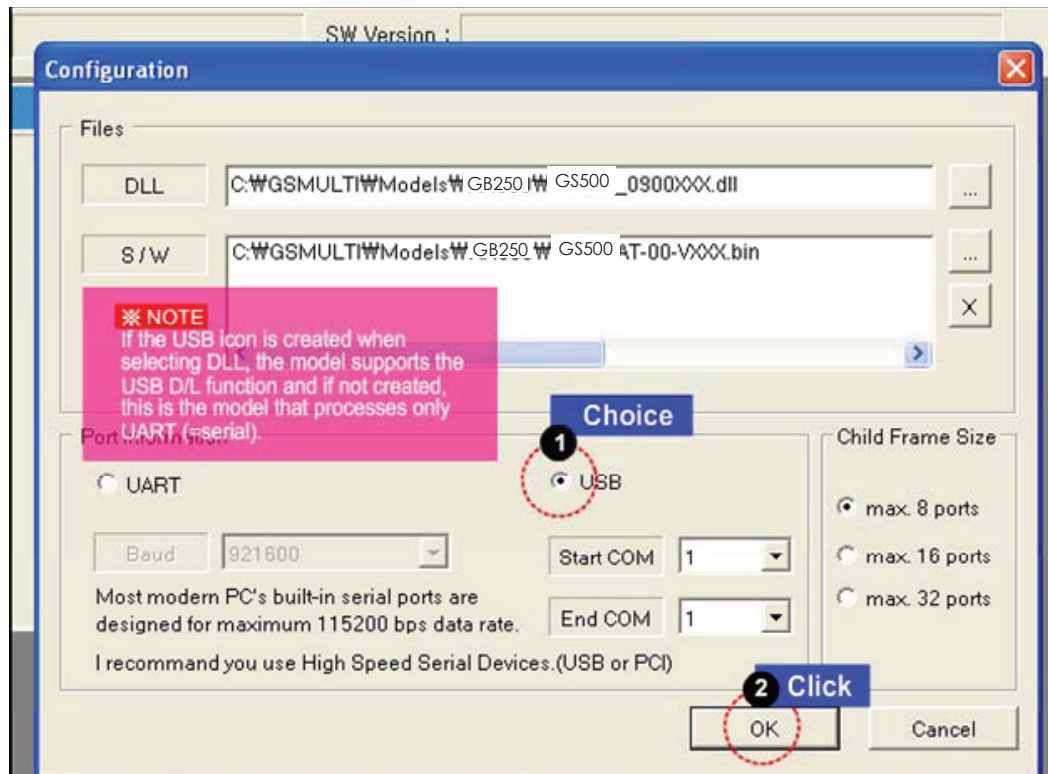
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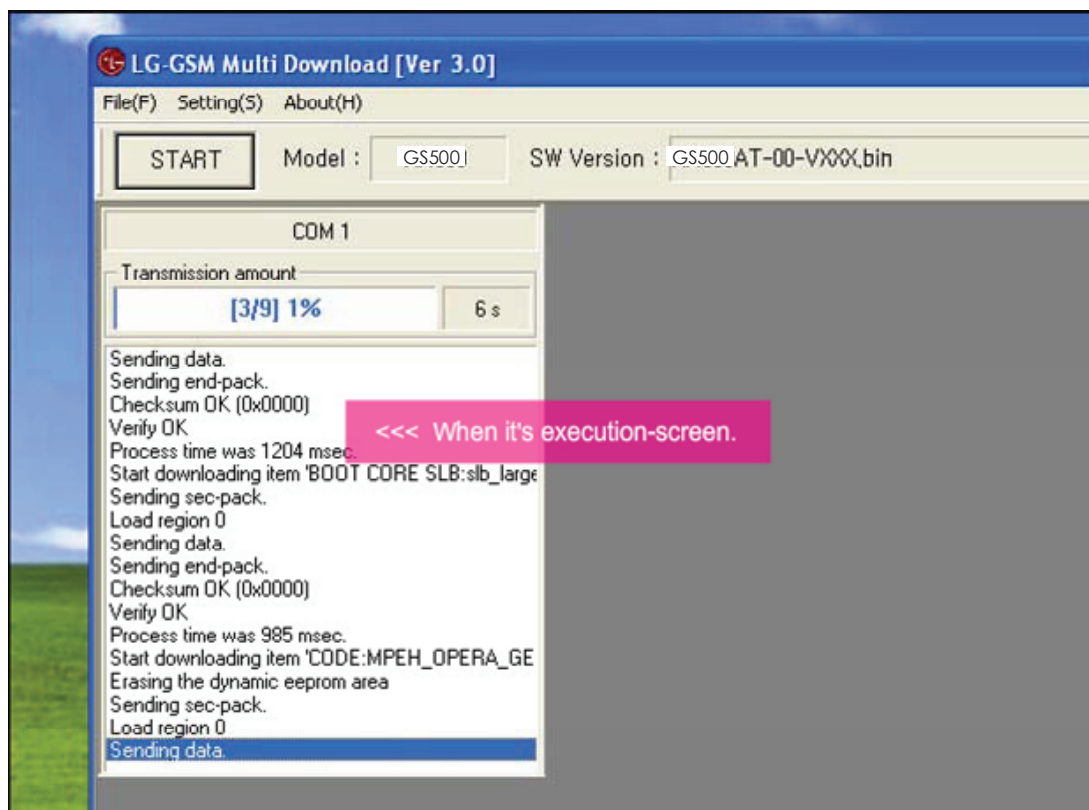
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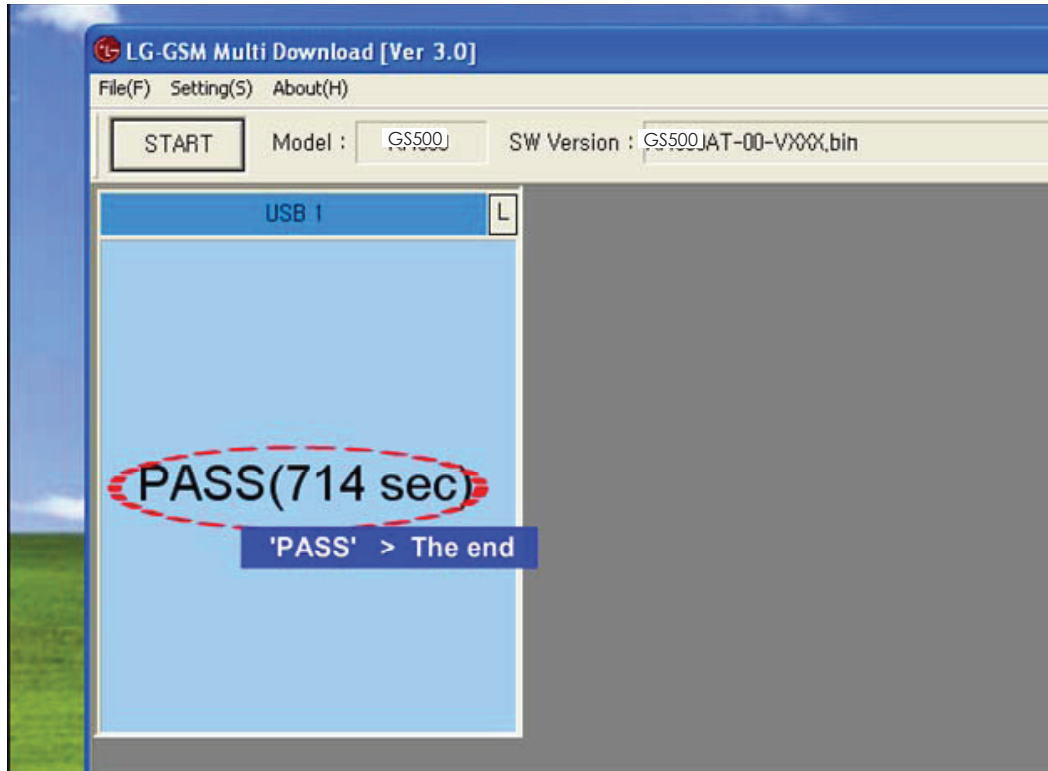
6. DOWNLOAD



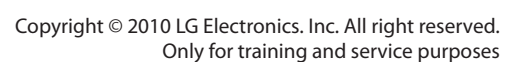
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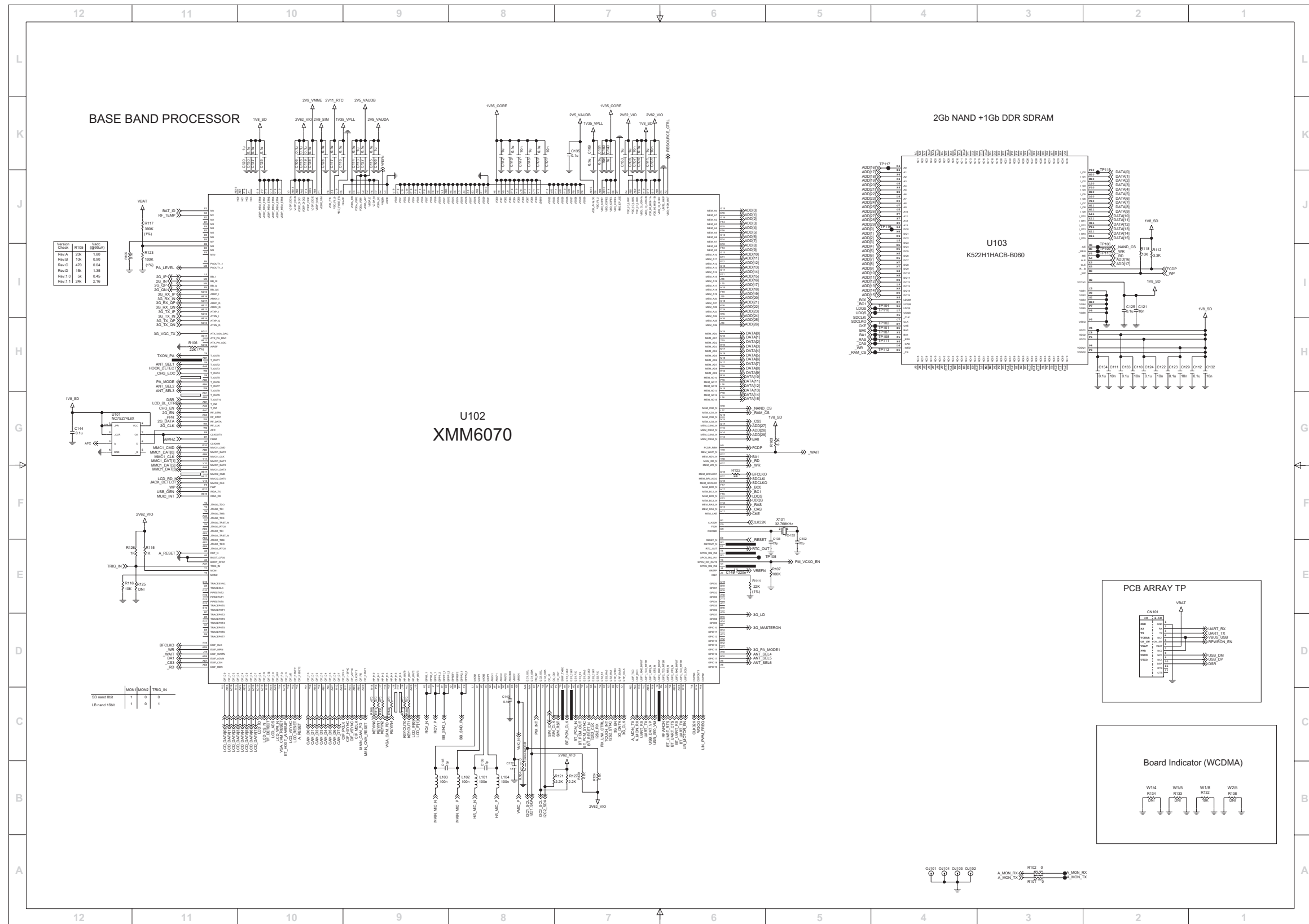
6. DOWNLOAD



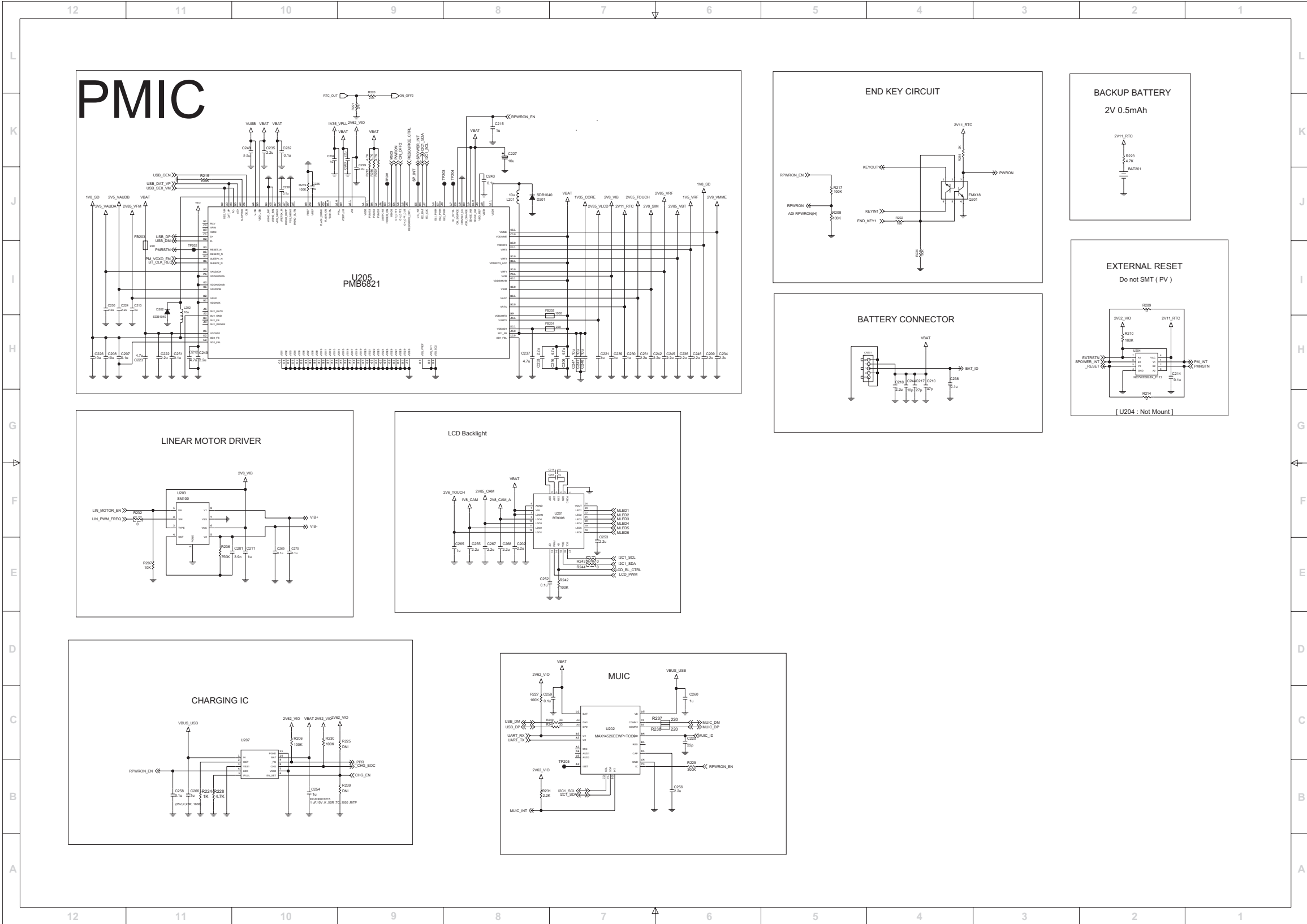
7. BLOCK DIAGRAM



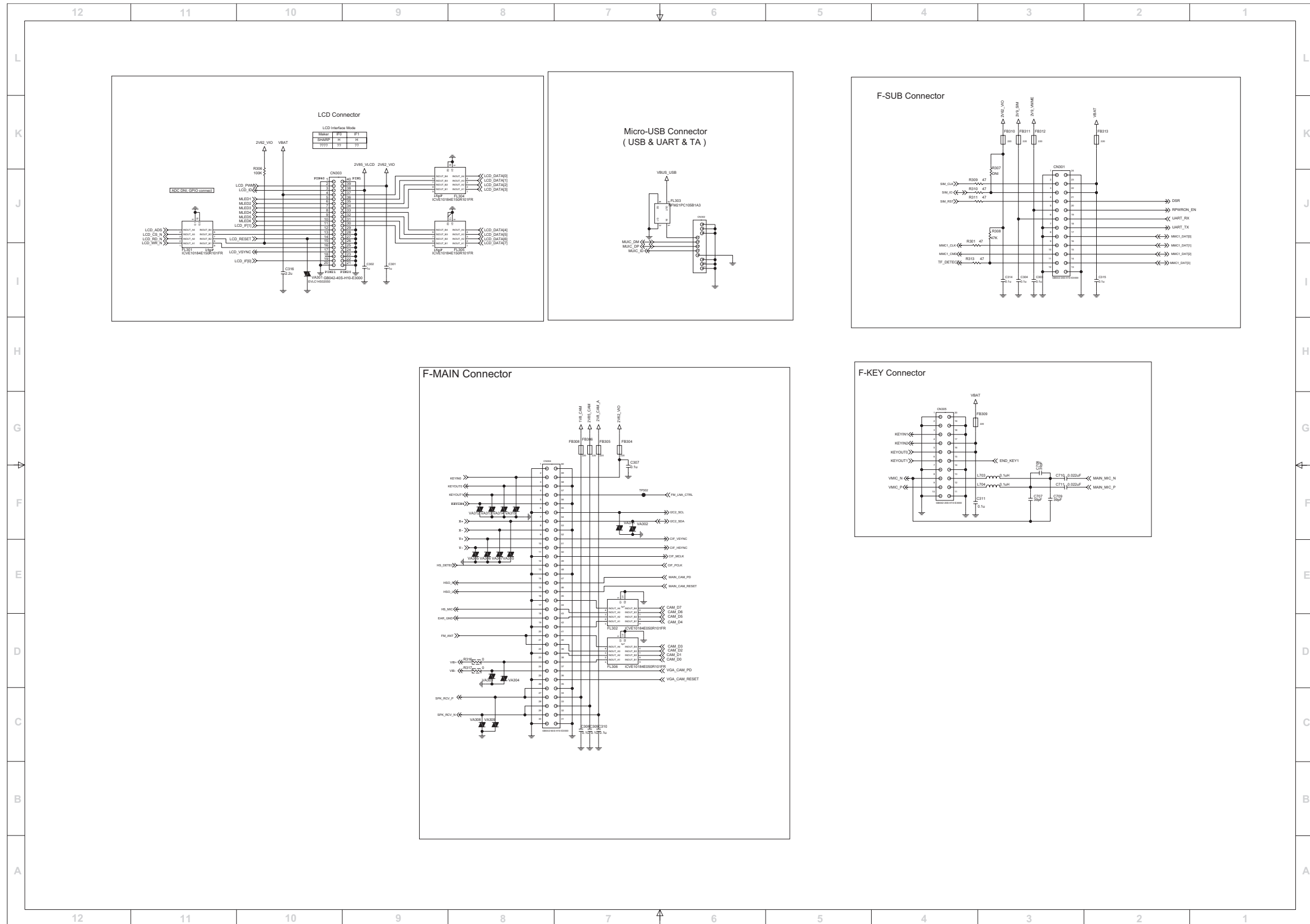
8. CIRCUIT DIAGRAM



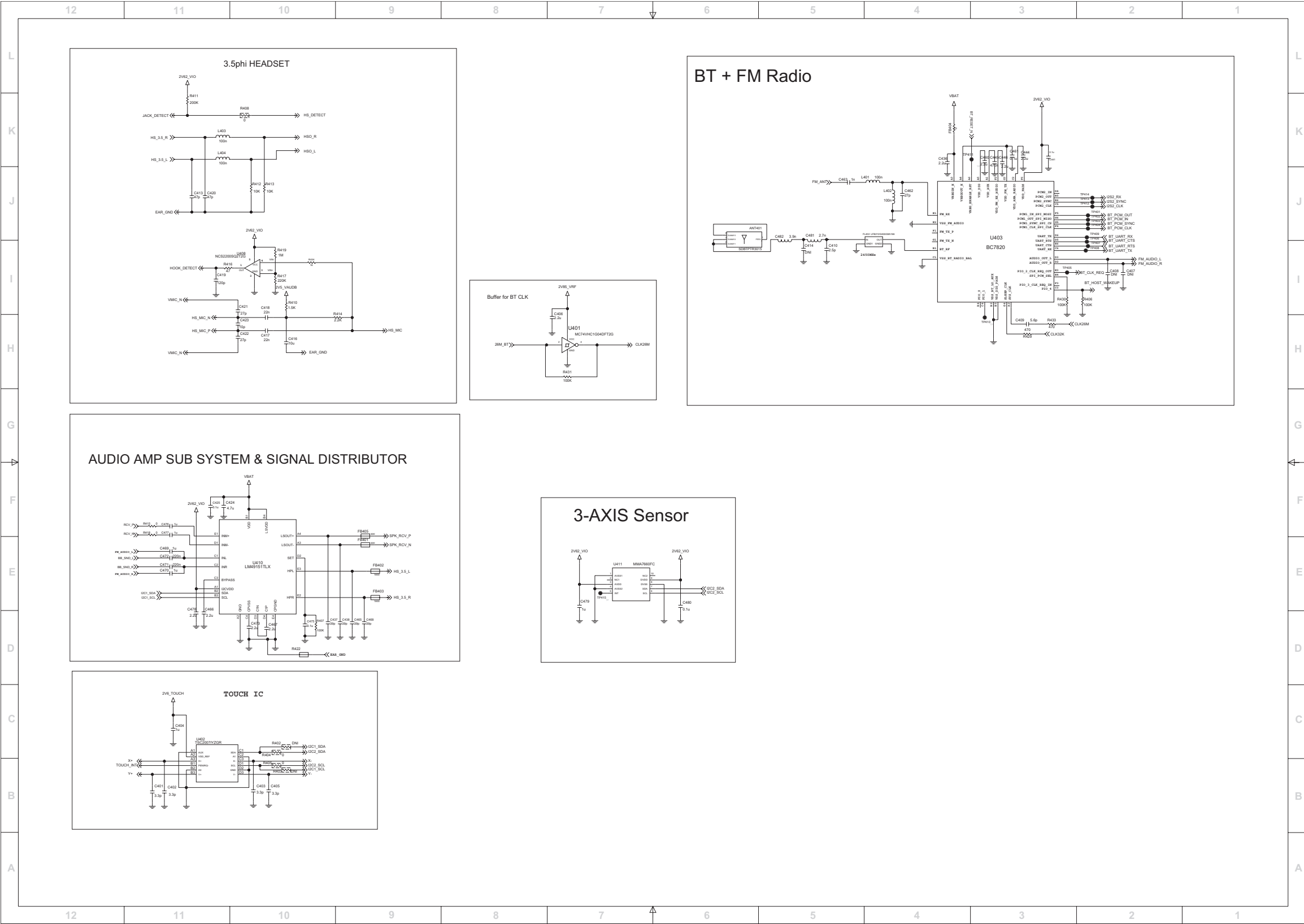
8. CIRCUIT DIAGRAM



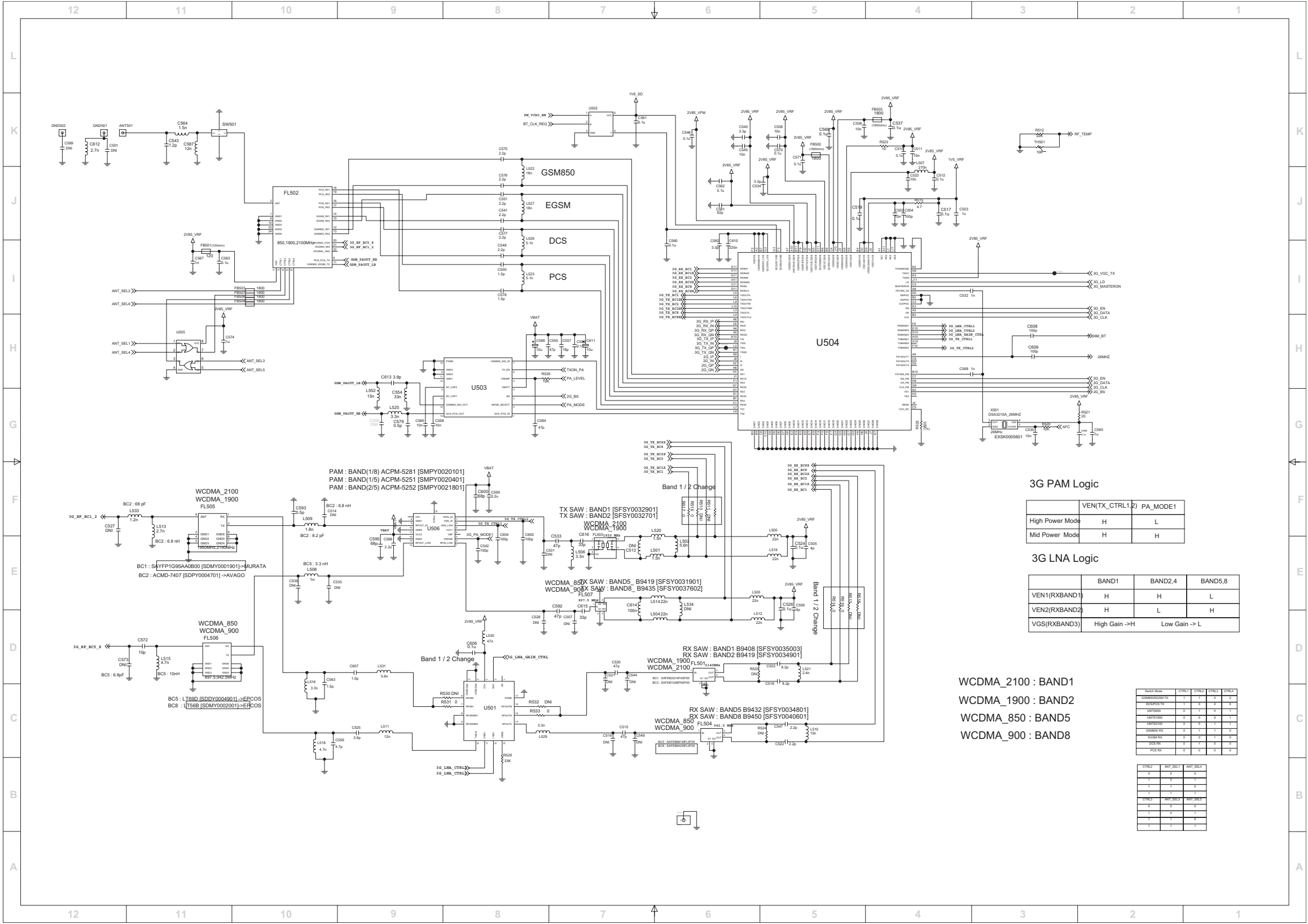
8. CIRCUIT DIAGRAM



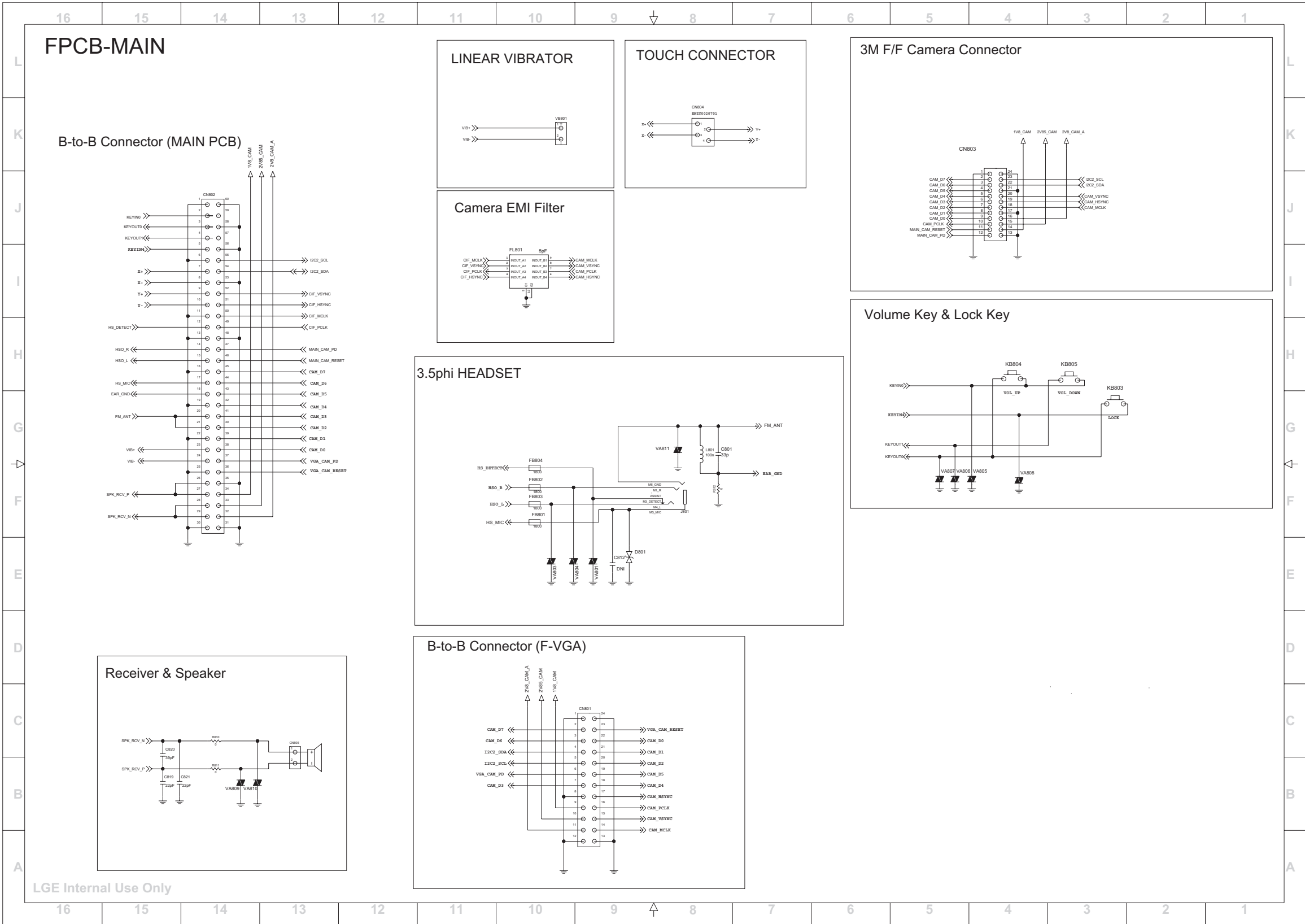
8. CIRCUIT DIAGRAM



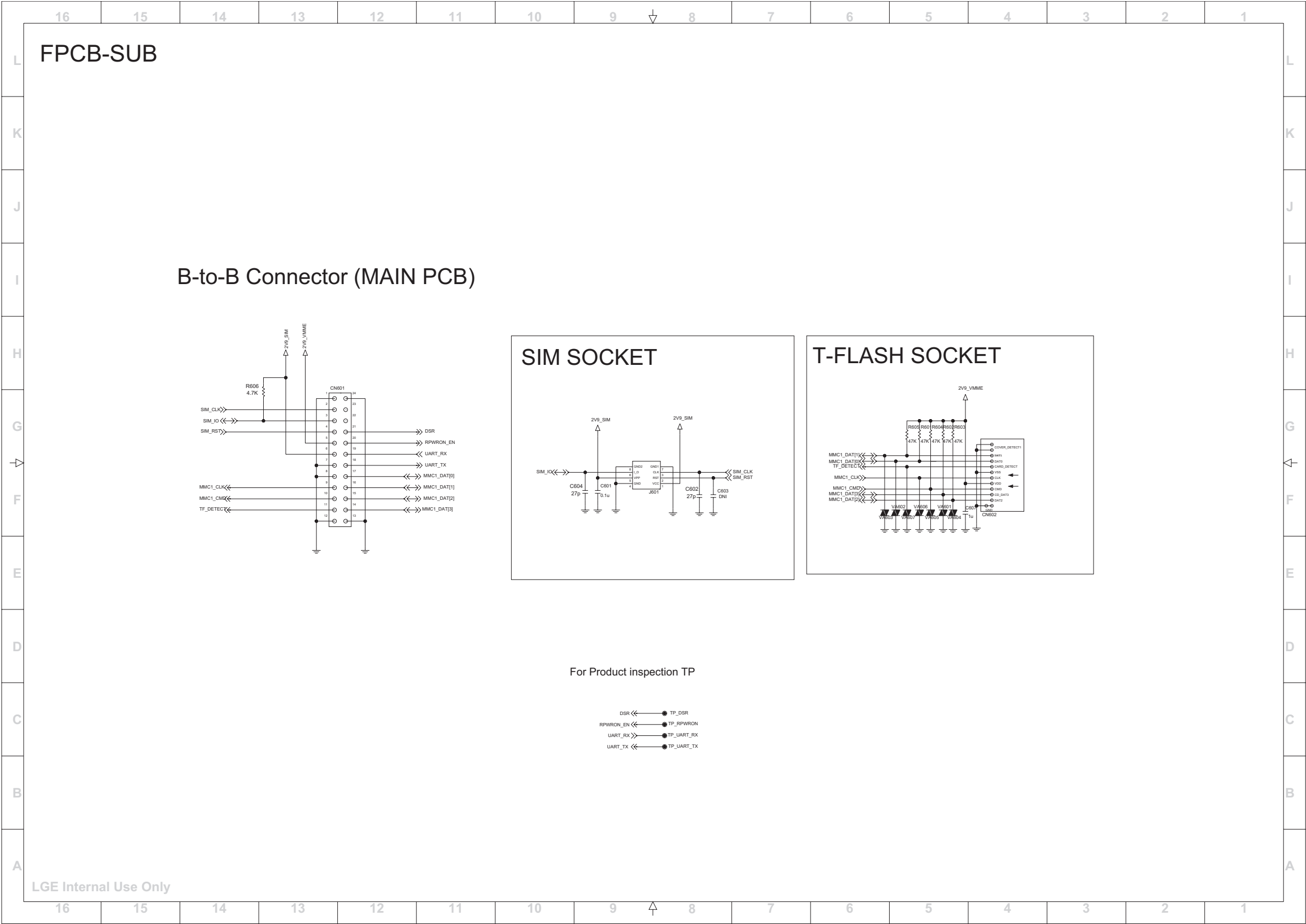
8. CIRCUIT DIAGRAM



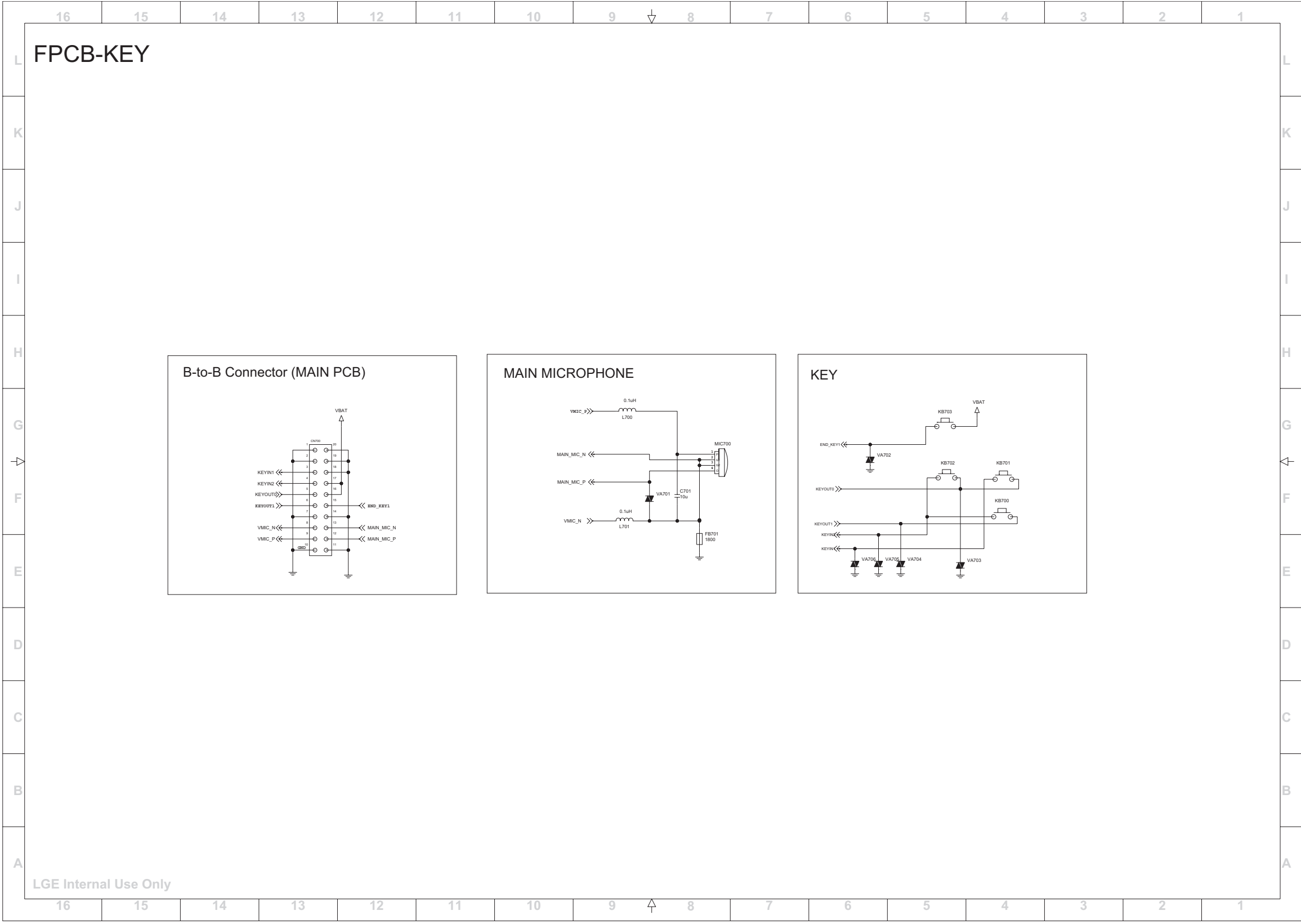
8. CIRCUIT DIAGRAM



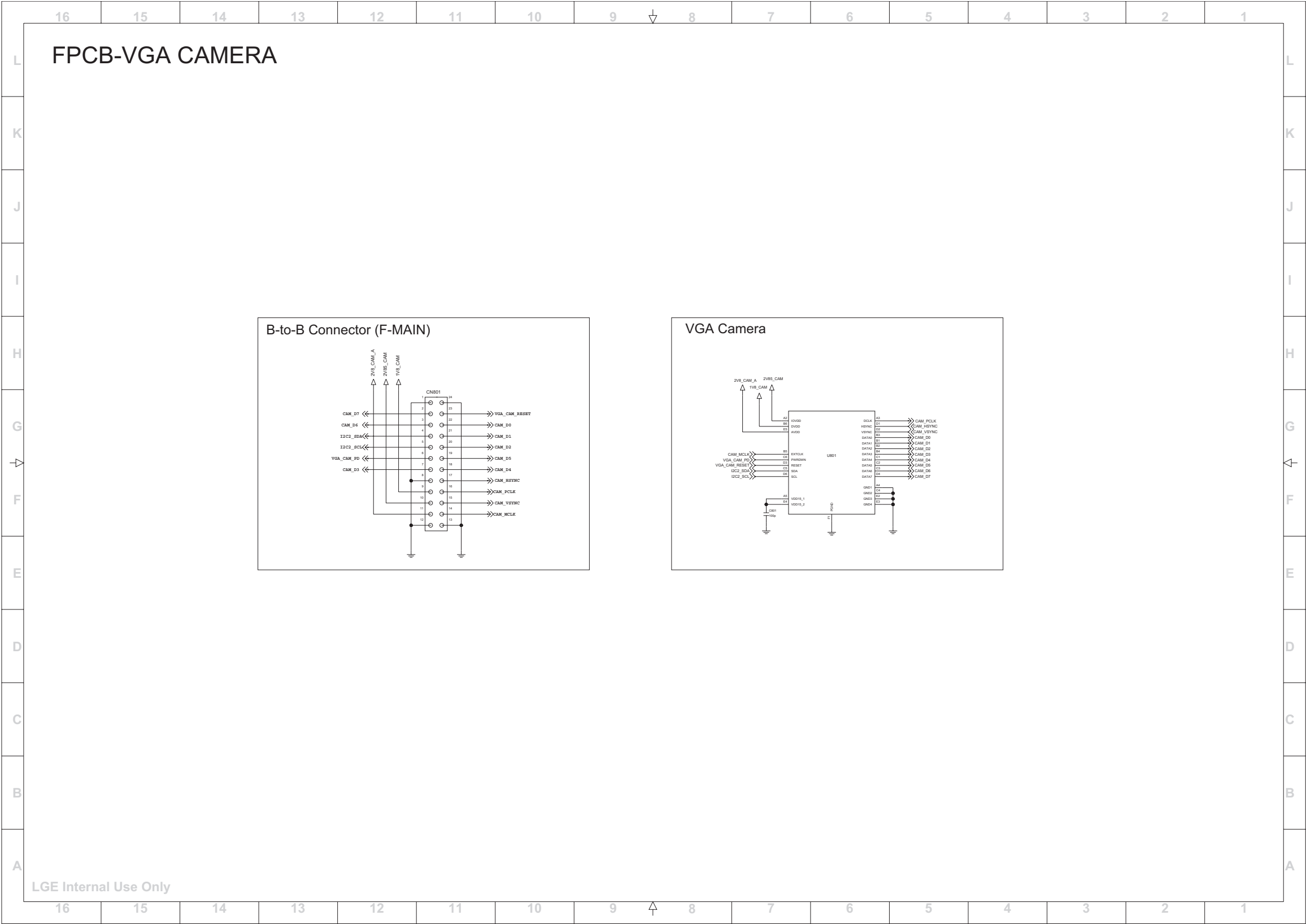
8. CIRCUIT DIAGRAM



8. CIRCUIT DIAGRAM



8. CIRCUIT DIAGRAM



9. BGA Pin Map

PMB 8878(S-GOLD3H)

The Ballout topview for the S-GOLD[®]3H is shown in **Figure 6**.

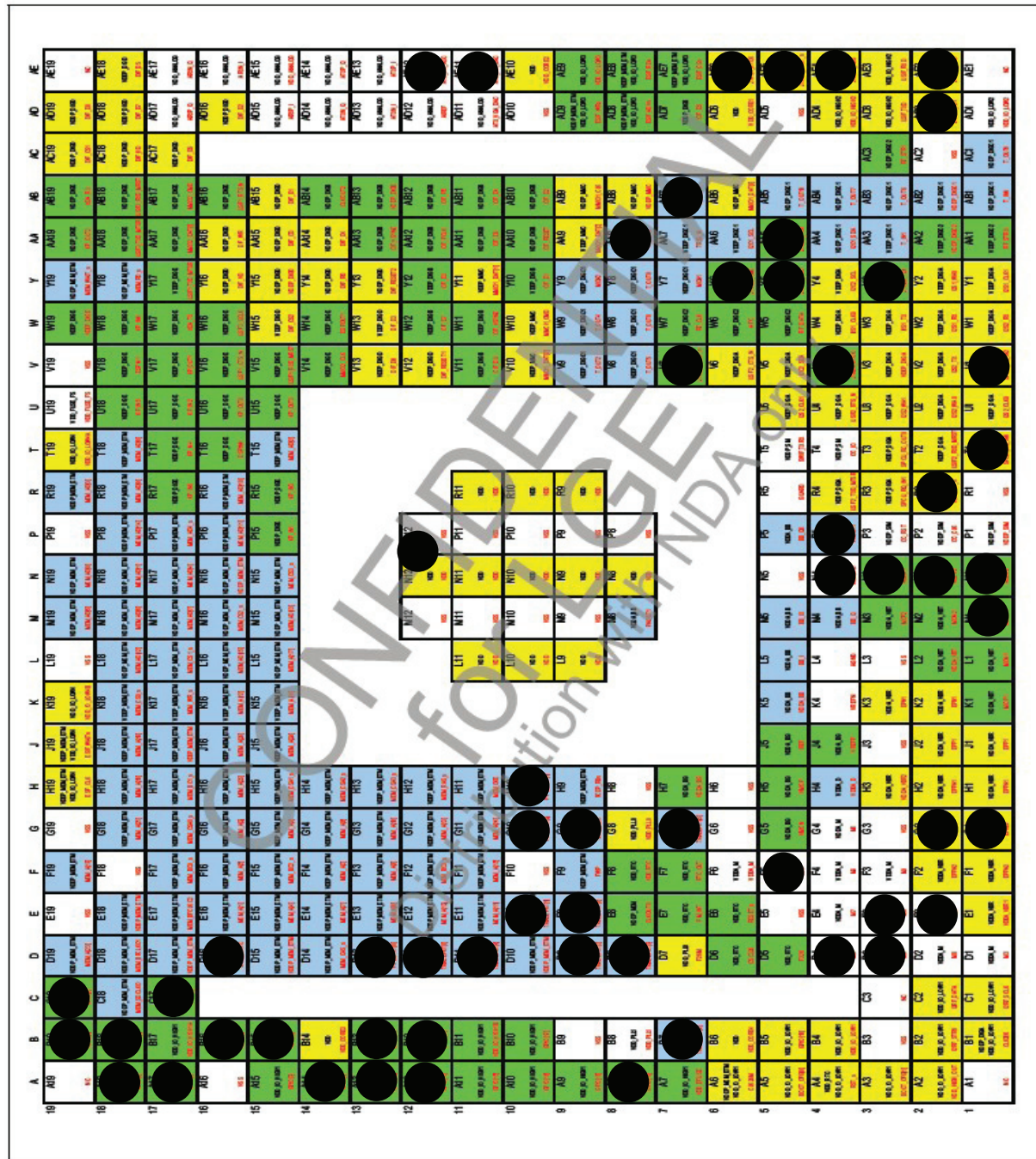


Figure 6 Ball-Out of S-GOLD[®]3H (Top View)

● : NC Pin

9. BGA Pin Map

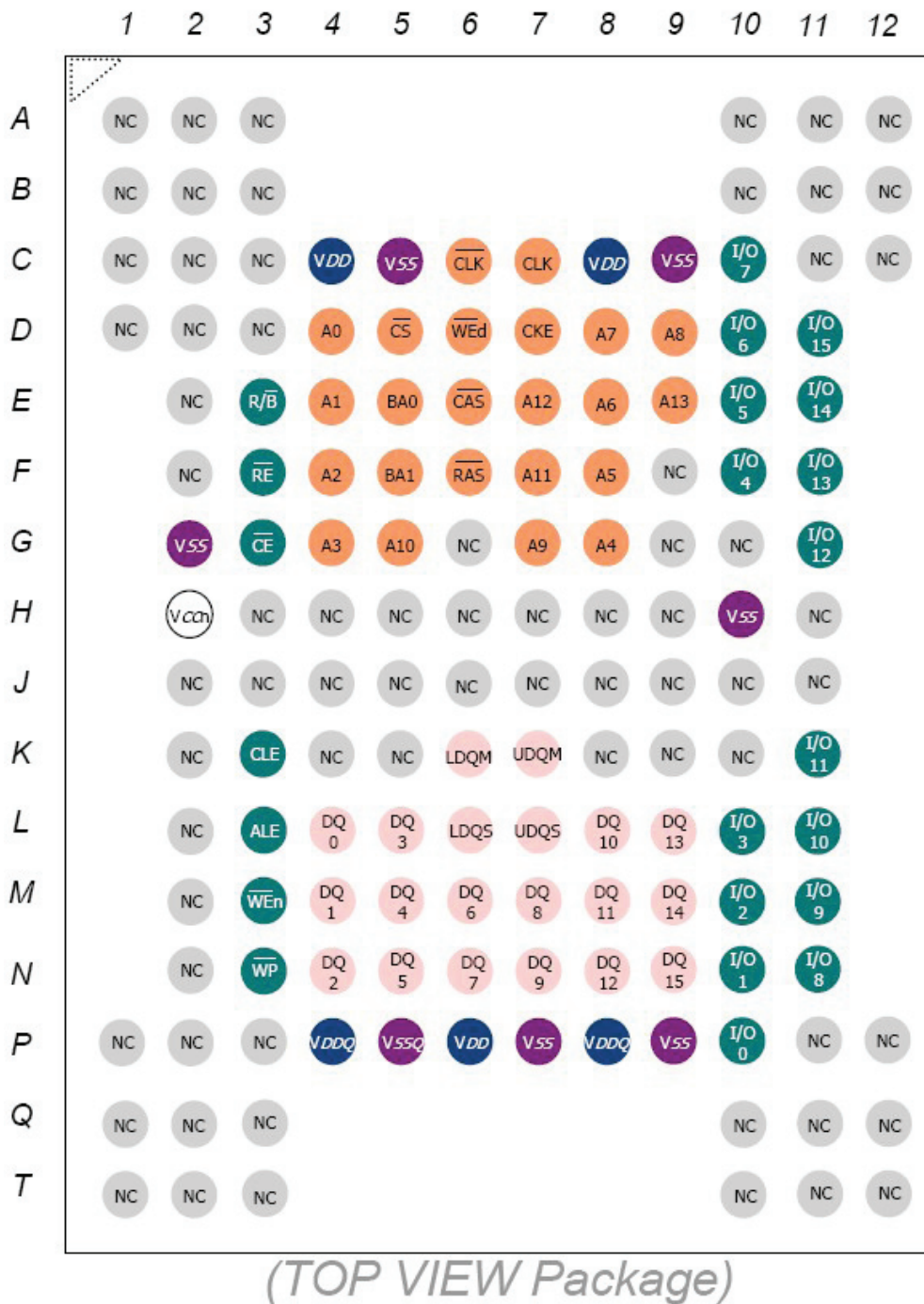
PMB6821

PMB6821 Pin Configuration (Top View)

	1	2	3	4	5	6	7	8	9	10	11	
A	PUMS1	DAT_VP	SUSPEND	VUSB	VREFEX_M	MONO_O UTN	MONO_O UTP	VLED	FLASH_SI NK	VPLL	VIO	A
B	RCV	SE0_VM	AC_Plus	PUMS2	VDDUSB	MONO_IN P	VDD_MO NO	RREF	VDDPLLI O	TXONPA	PUMS3	B
C	D_Plus	VPIN	AC_Minus	OE_N	MONO_IN N	VSS	VSS_MON O	VREF	FLASH_O N	VDDMME	VMME	C
D	RESET2_ N	D_Minus	VMIN	VSS	VSS	VSS	VSS	VSS	VSS_VRE F	VDDRF2	VRF2	D
E	SLEEP2_ N	SLEEP1_ N	RESET_N	VSS	VSS	VSS	VSS	VSS	VSS	VRF3	VDDRF13 AFC	E
F	VDDAUDI OA	VAUDIOA	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VRF1	VVIB	F
G	VAUDIOB	VDDAUDI OB	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSIM	VDDSIMVI B	G
H	VDDAUX	VAUX	SU1_FB	VSS_SD2	VSS	VSS	VSS	VSS_SD1	VDDUMTS	VRTC	VAFC	H
J	SU1_GAT E	SU1_GND	SU1_ISEN SE	OUTPORT	RESOUR CE_CTRL	VSS	I2C_CLK	BL3_PWM	VDD_REF	SD1_FB	VUMTS	J
K	VDDSD2	SD2_FB	POWER ON	ON_OFF1	I2C_INT	I2C_DAT	BL2_PWM	CH_SOUR CE	VDDCHA RGE	SENSE_IN 2	VDDSD1	K
L	VSD2	SD2_FBL	WDOG	ON_OFF2	ON_OFF OUT	BL1_PWM	CH_CNTR L	CHARGE_ UC	SENSE_IN 1	SD1_FBL	VSD1	L
	1	2	3	4	5	6	7	8	9	10	11	

● : NC Pin

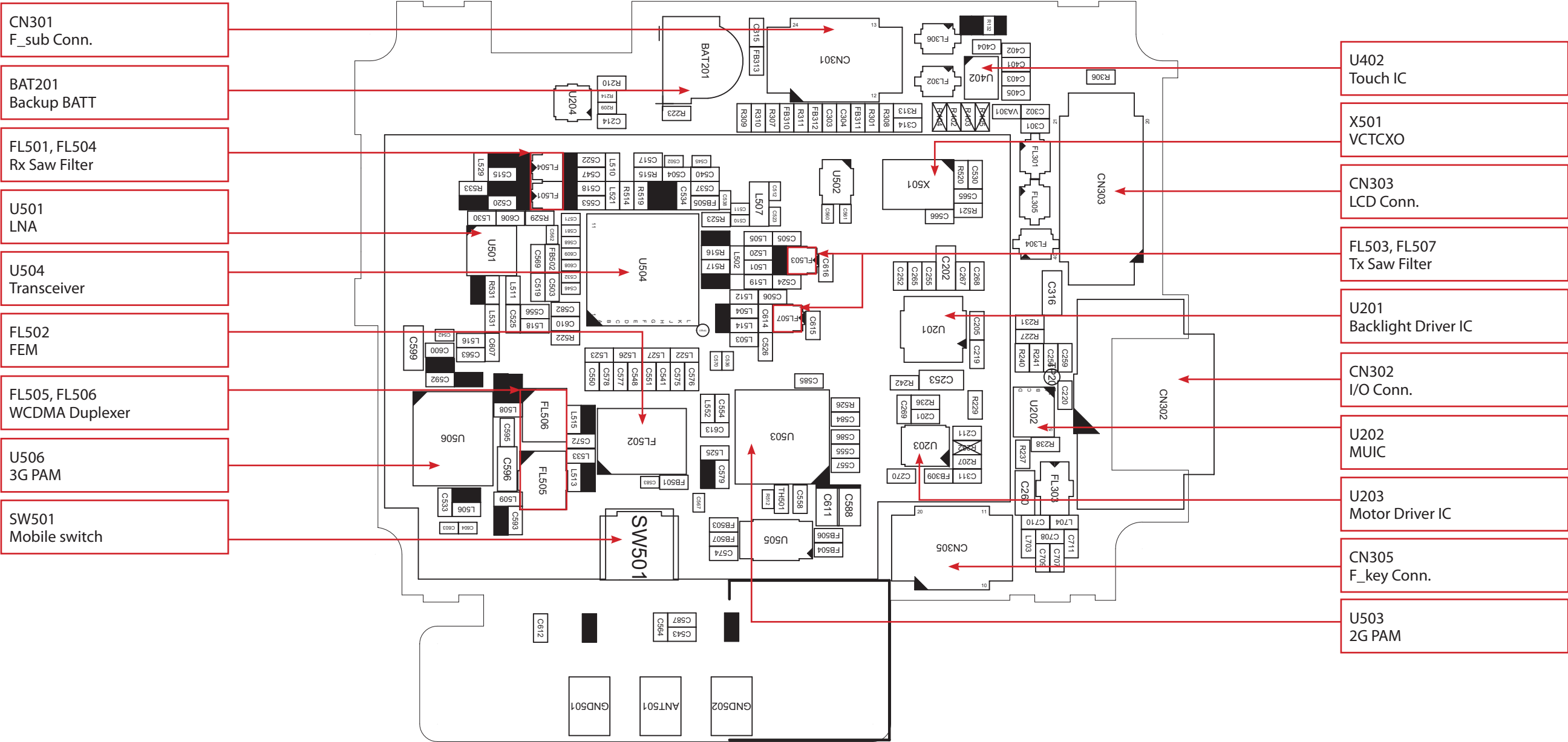
H8BCS0SI0MAP_56M



*** NC pin is not used

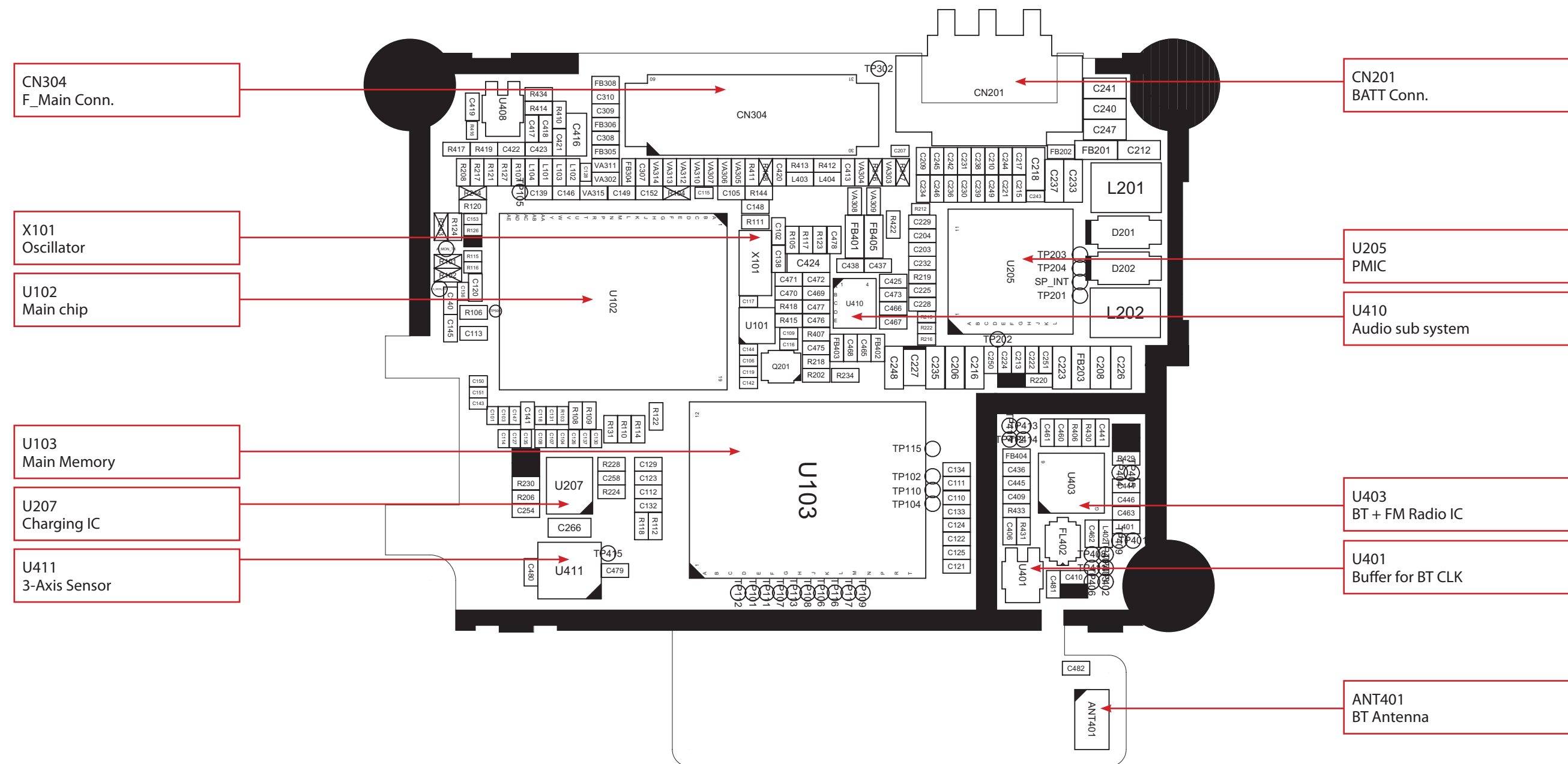


10. PCB LAYOUT



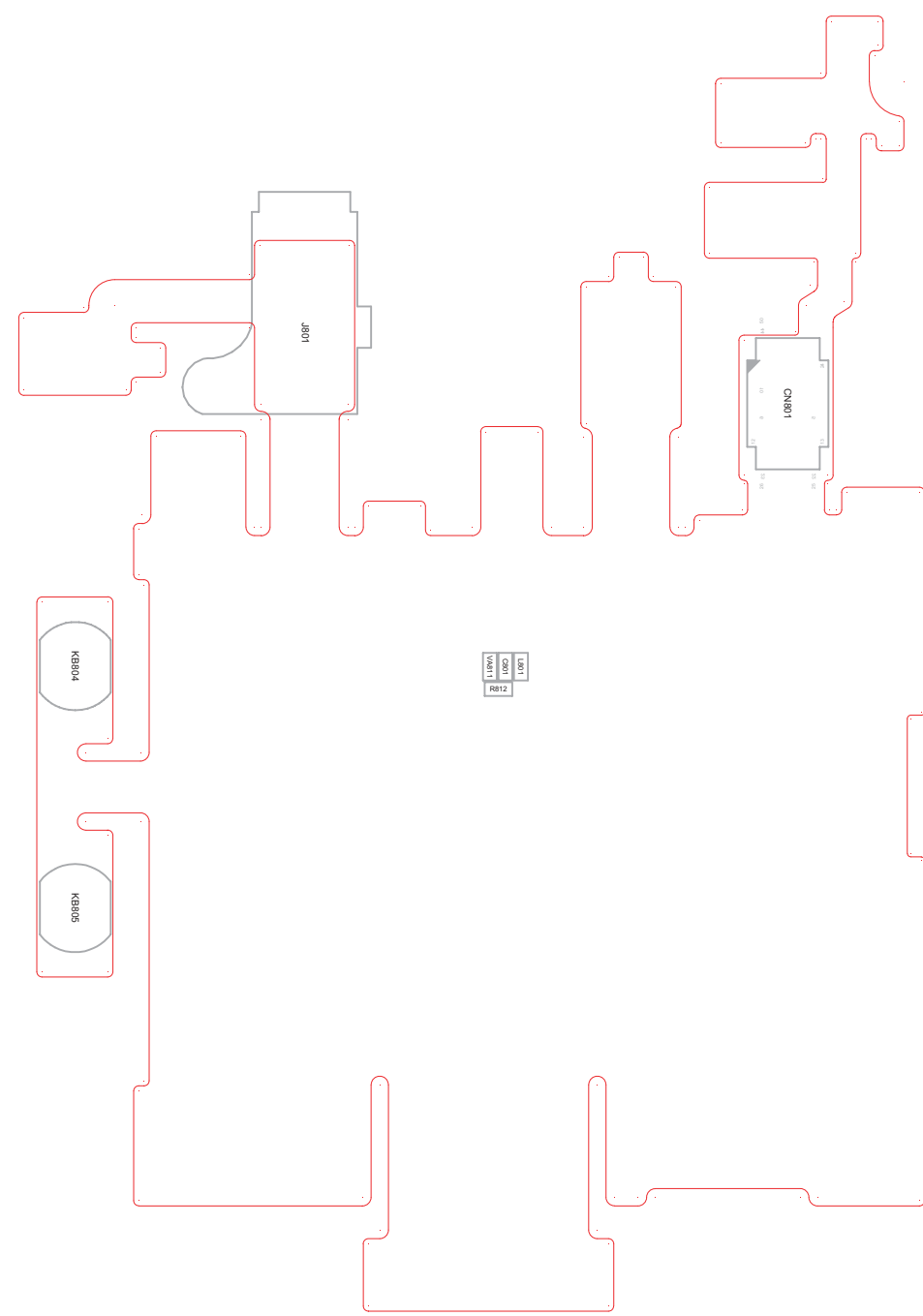
GS500_MAIN_1.0_TOP

10. PCB LAYOUT



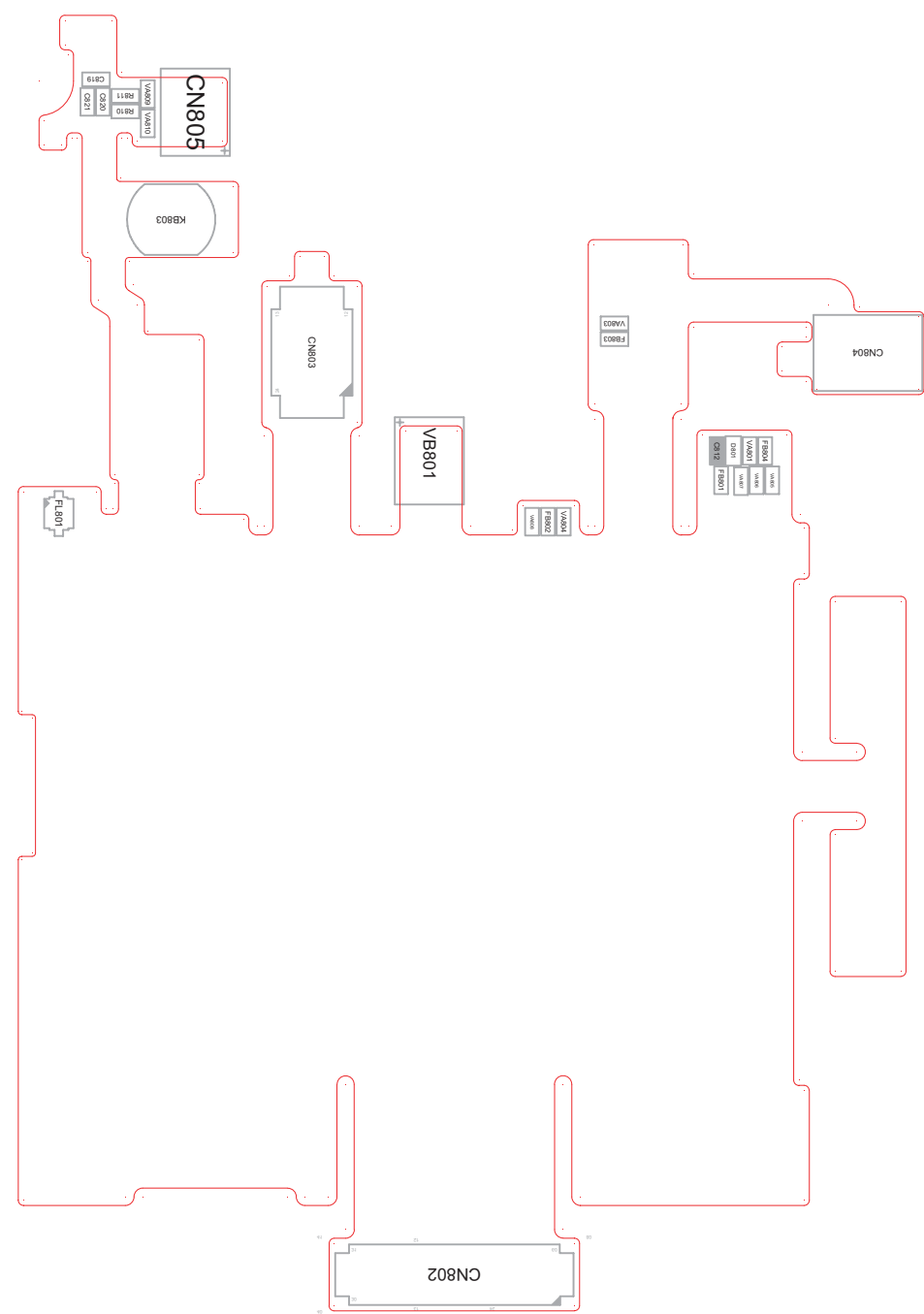
GS500_MAIN_1.0_BOTTOM

10. PCB LAYOUT



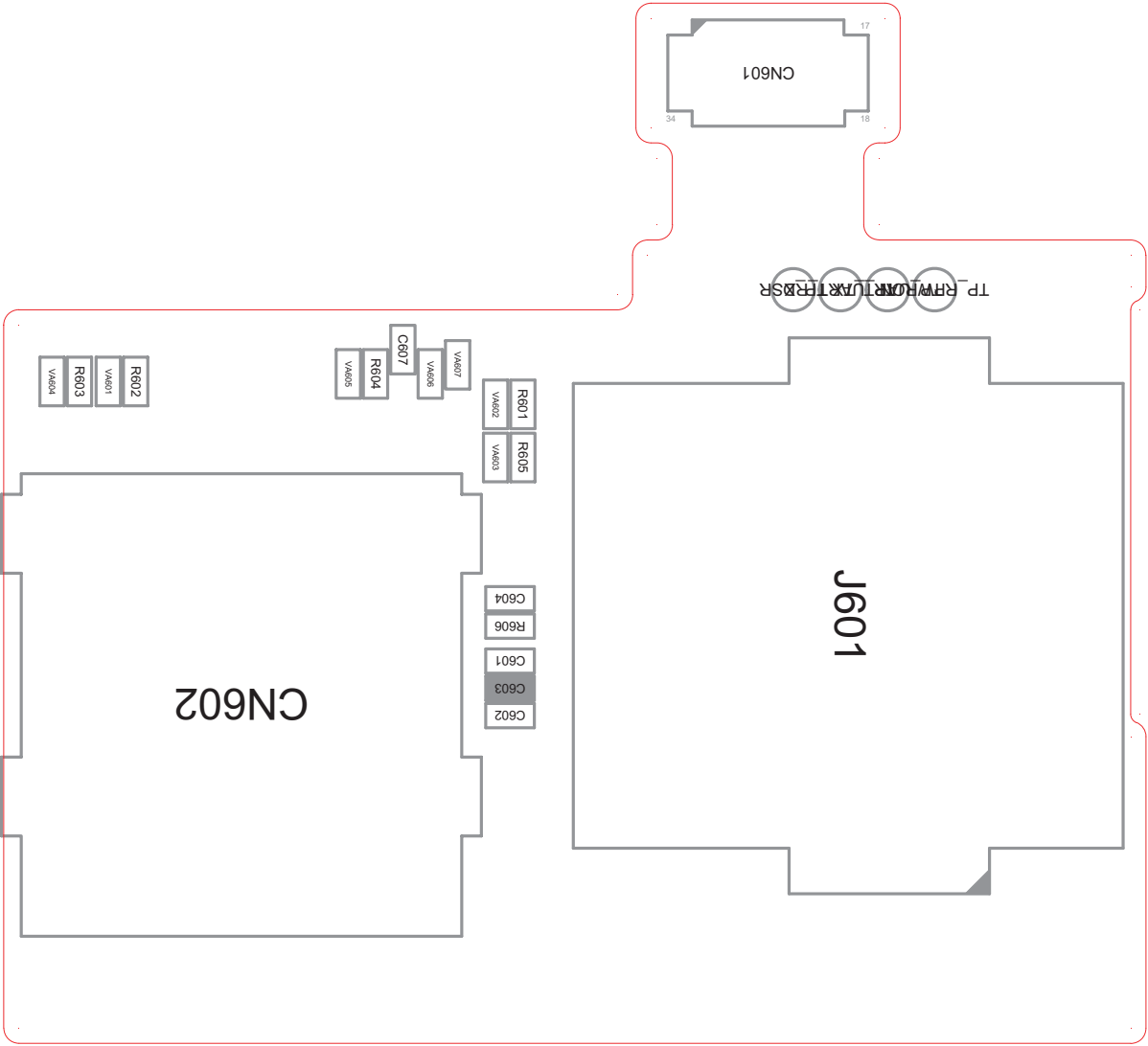
GS500_F_MAIN_SPCY0207101_1.1_TOP

10. PCB LAYOUT



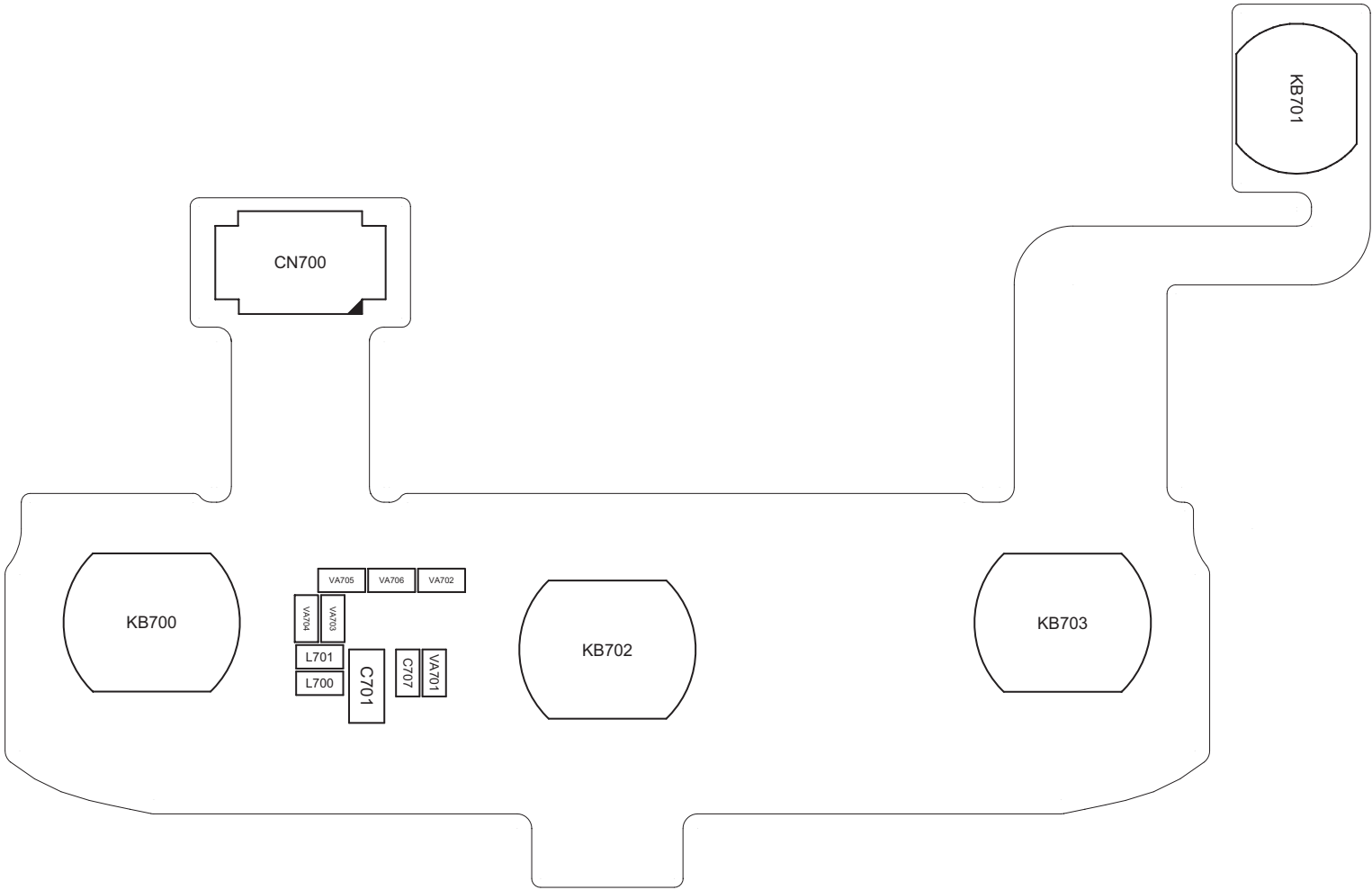
GS500_F_MAIN_SPCY0207101_1.1_BOT

10. PCB LAYOUT



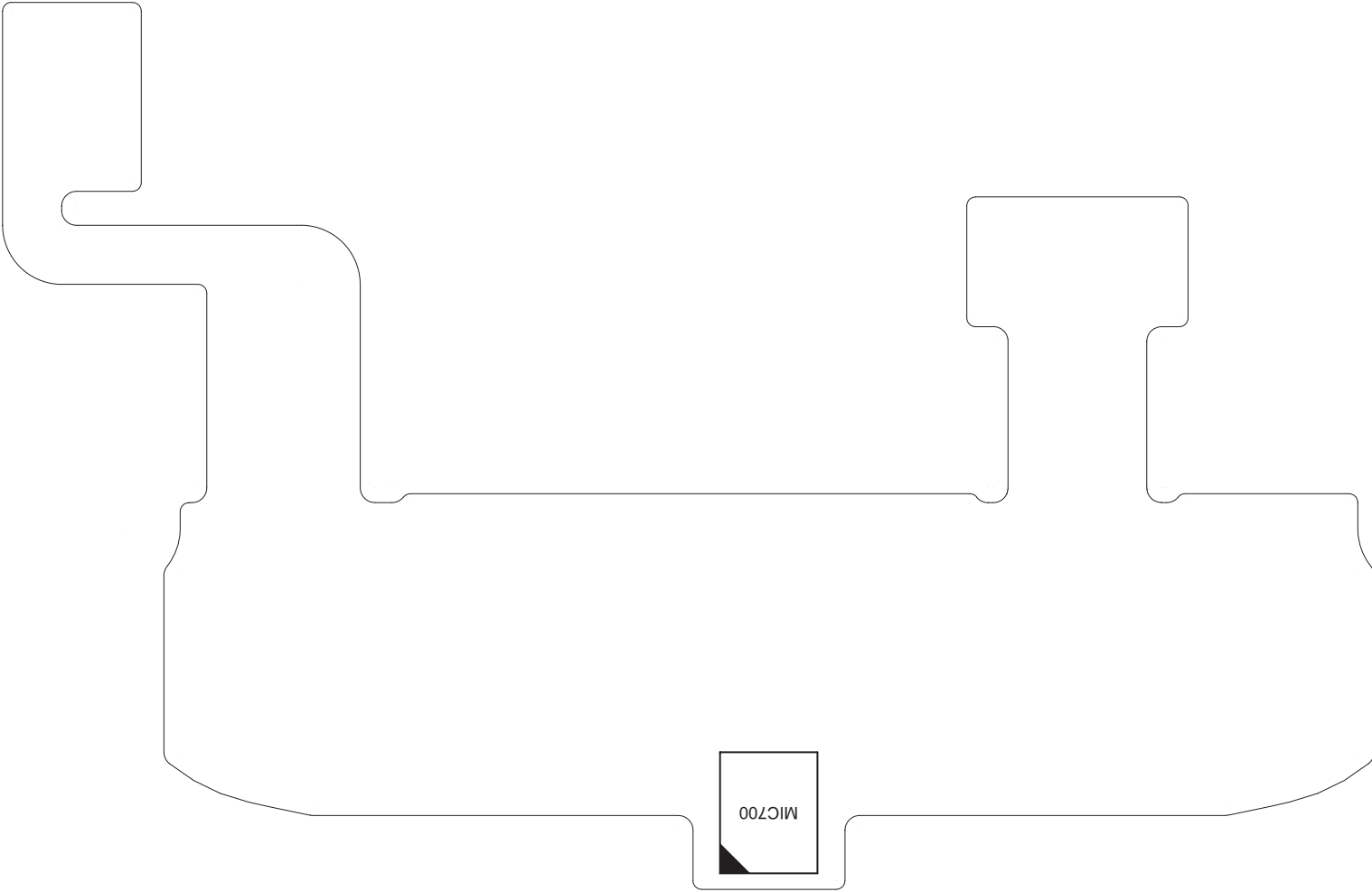
GS500_F_SUB_SPCY0205201_1.1_BOT

10. PCB LAYOUT



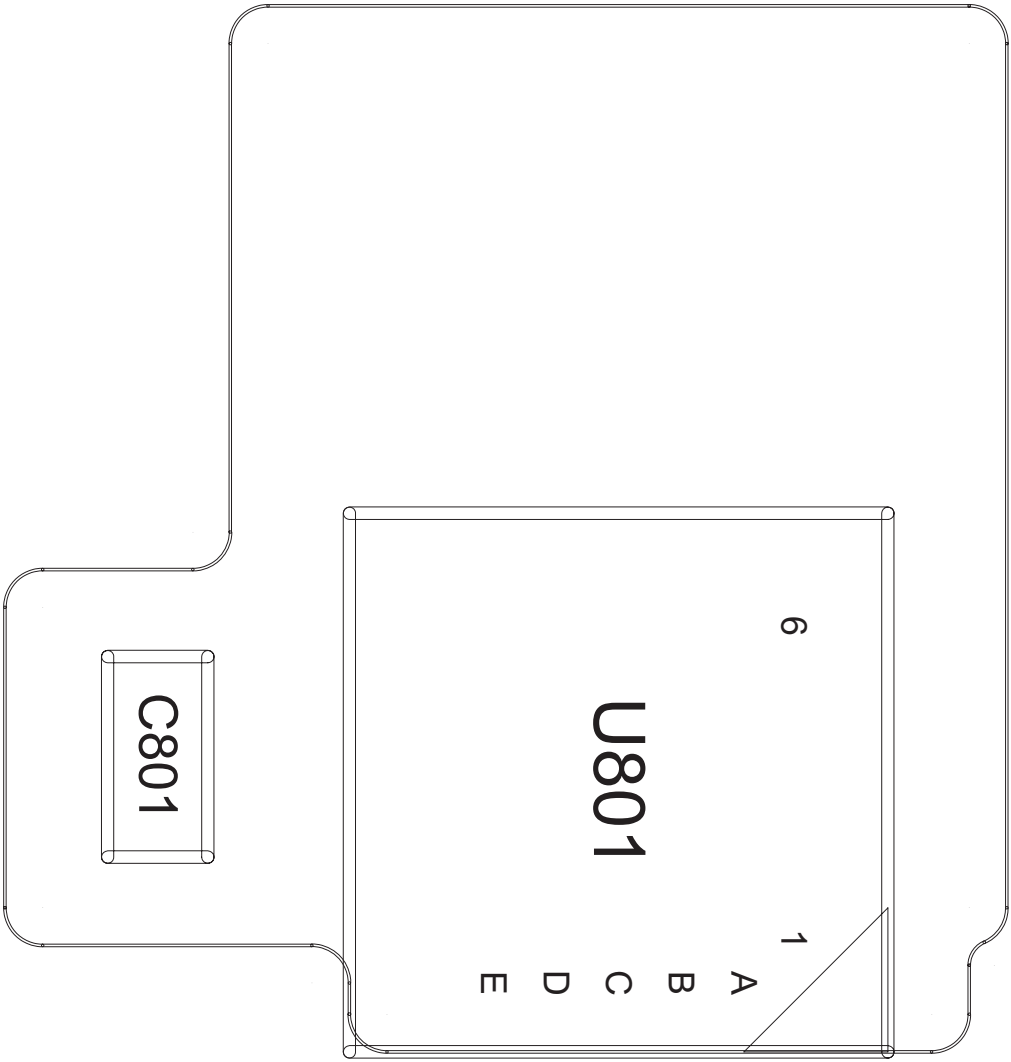
GS500_F-KEY_SPCY0205901-1.1_TOP

10. PCB LAYOUT



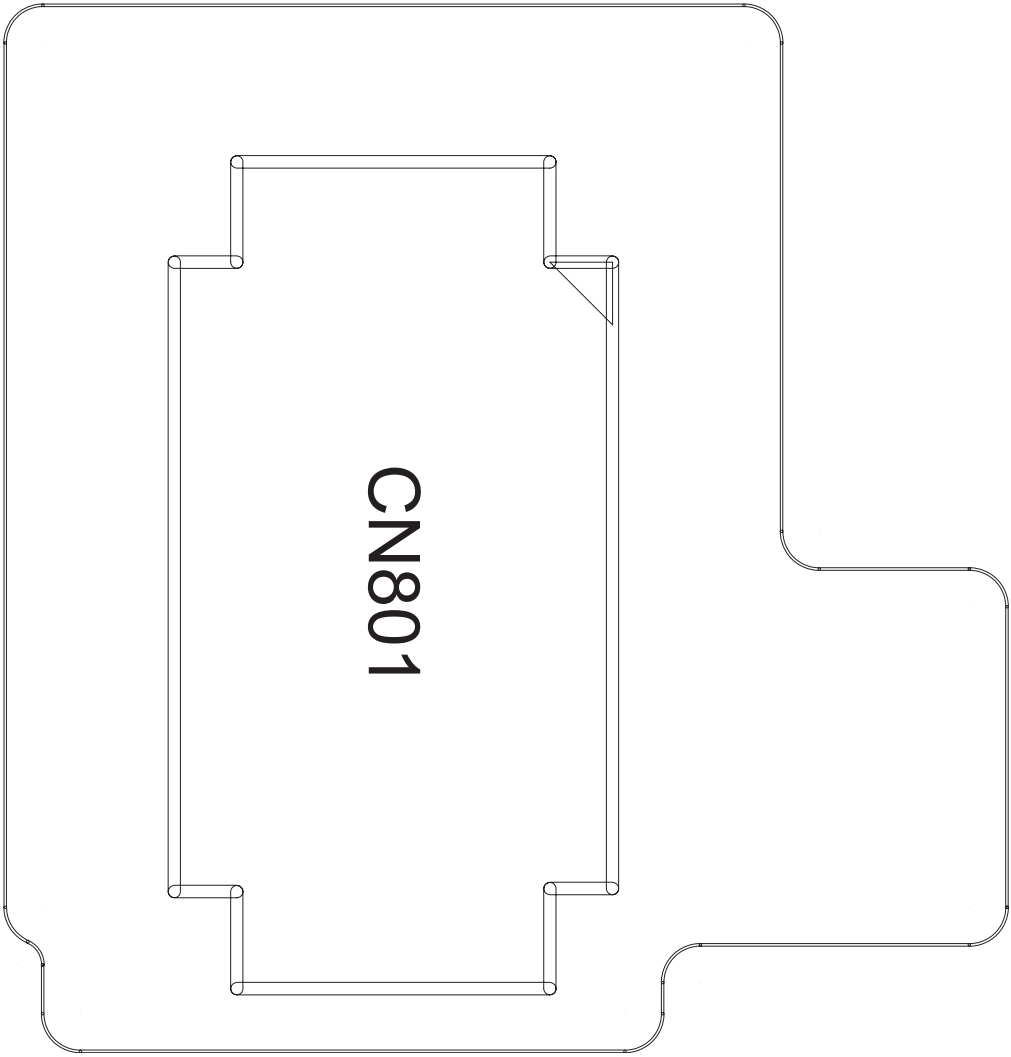
GS500_F-KEY_SPCY0205901-1.1_BOTTOM

10. PCB LAYOUT



GS500-F_VGA_SPCY0213301-1.0_TOP

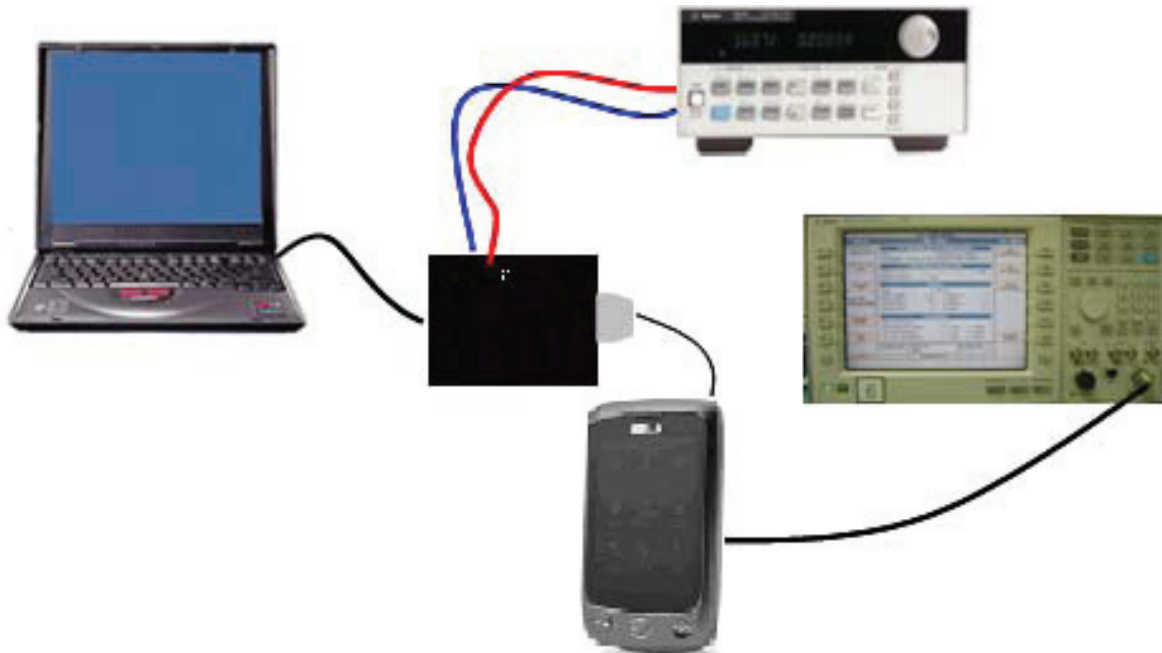
10. PCB LAYOUT



GS500-F_VGA-SPCY0213301_1.0_BOT

11. RF CALIBRATION

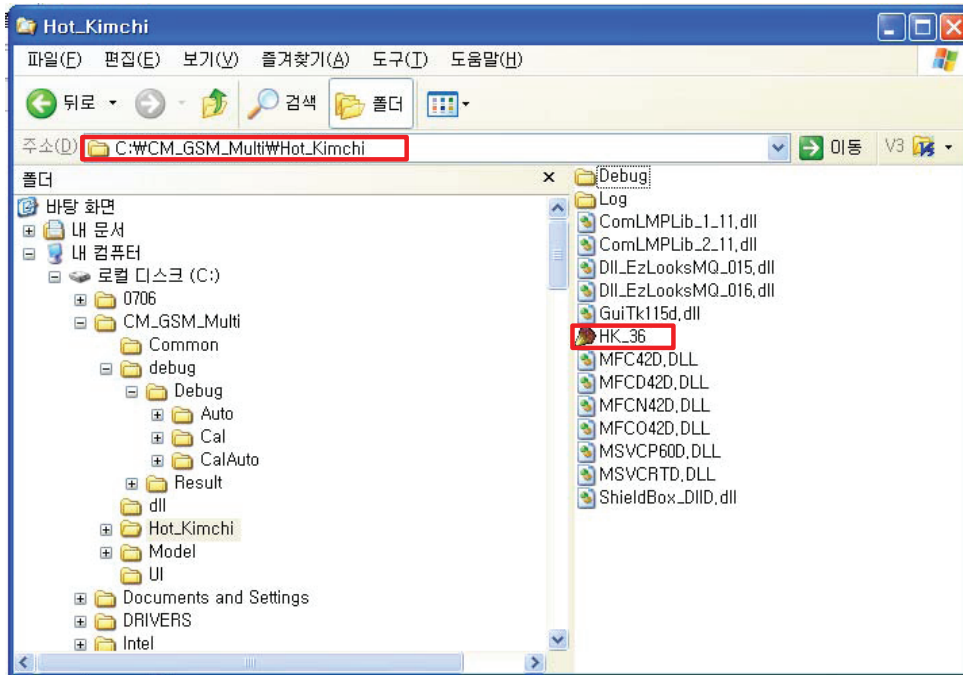
11.1 Test Equipment Setup



11. RF CALIBRATION

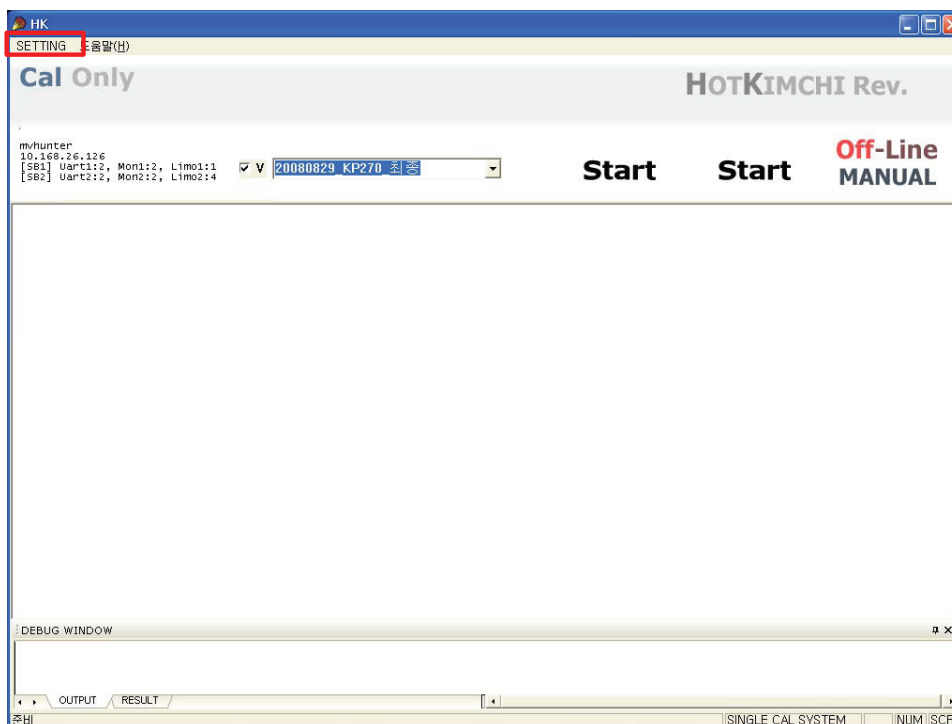
11.2 Calibration Step

11.2.1 Turn on the Phone.

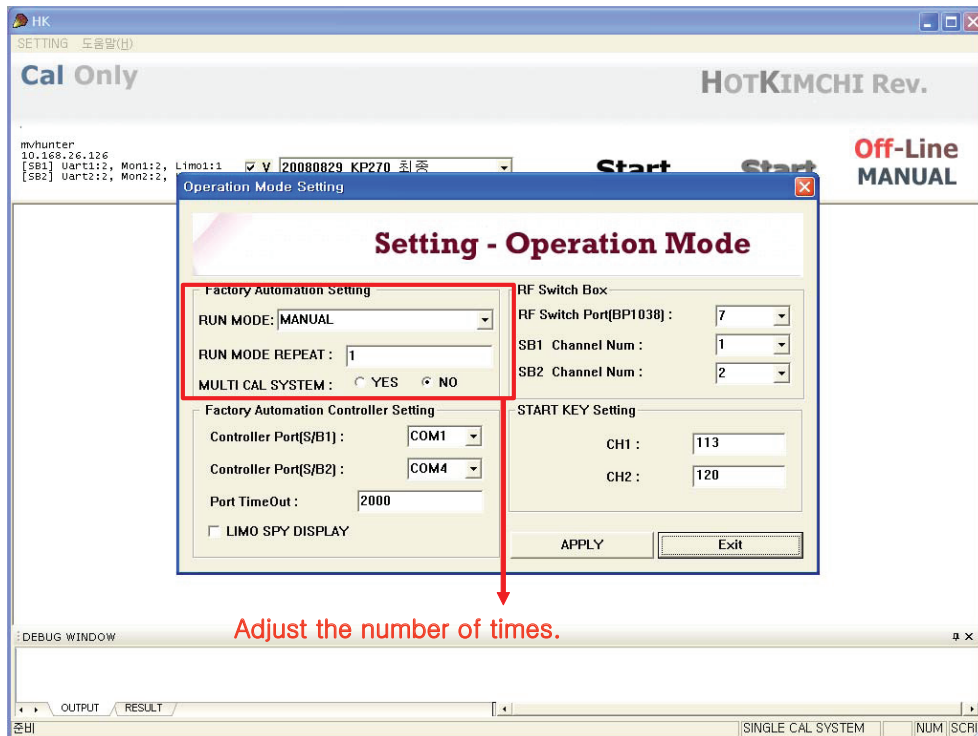


Execute "HK_36.exe"

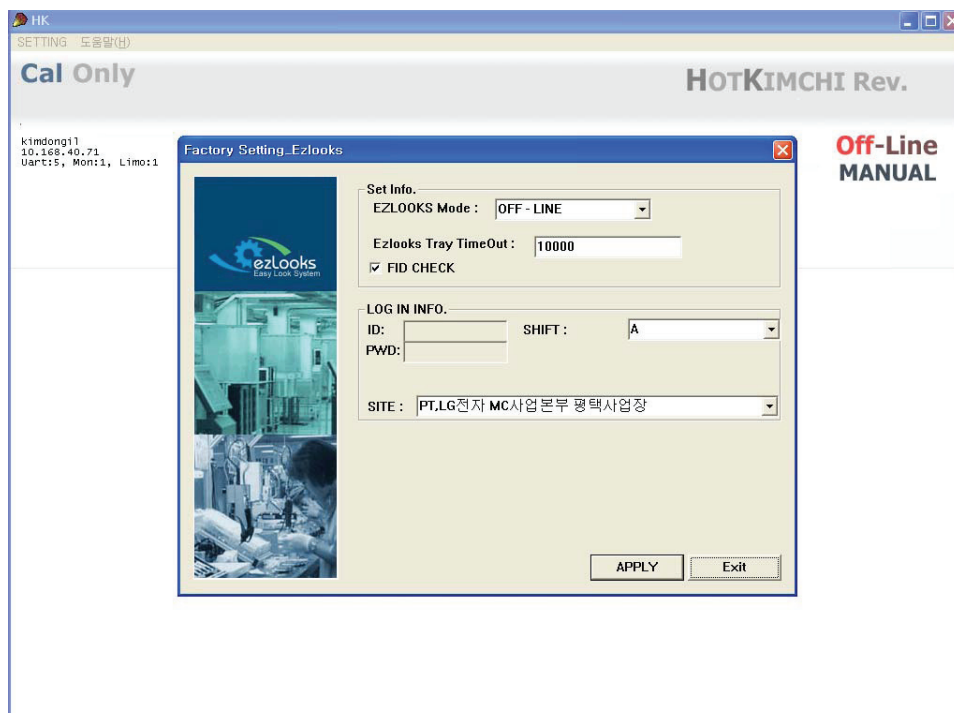
11.2.2. Click "SETTING" Menu



11.2.3. Setup "Ezlooks" menu such as the following figure

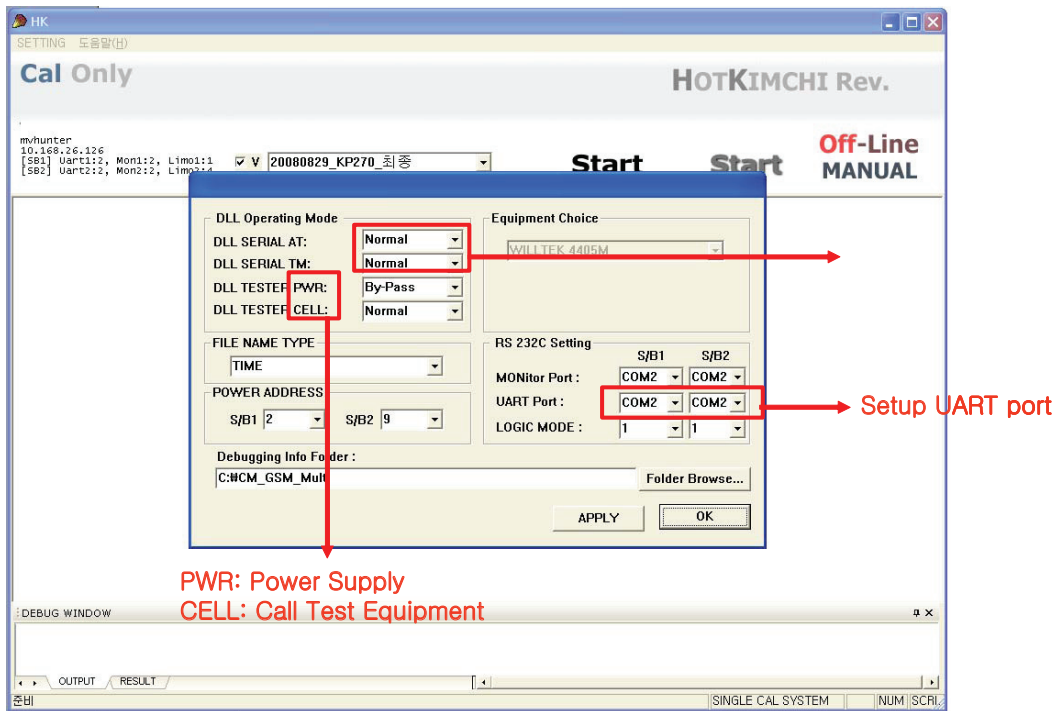


11.2.4. Setup "Line System" menu such as the following figure



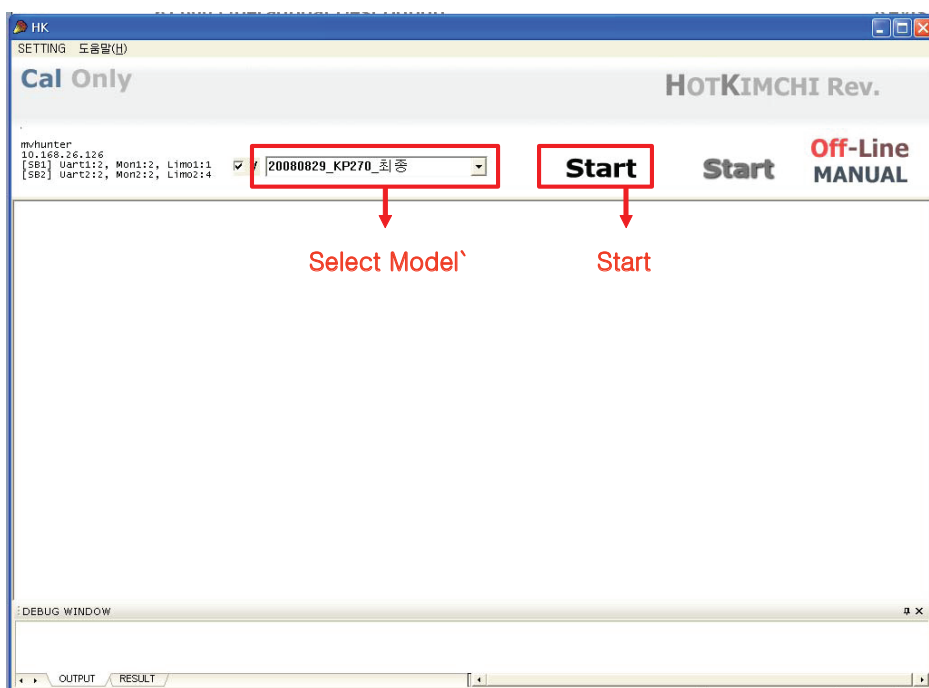
11. RF CALIBRATION

11.2.5 Setup Logic operation such as the following figure.

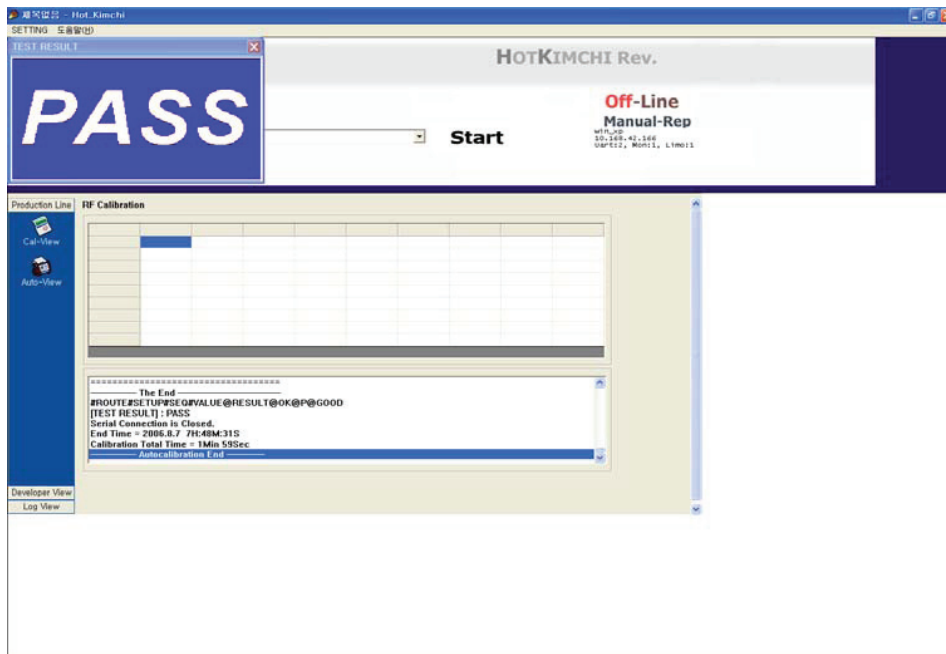


11.2.6. Select "MODEL".

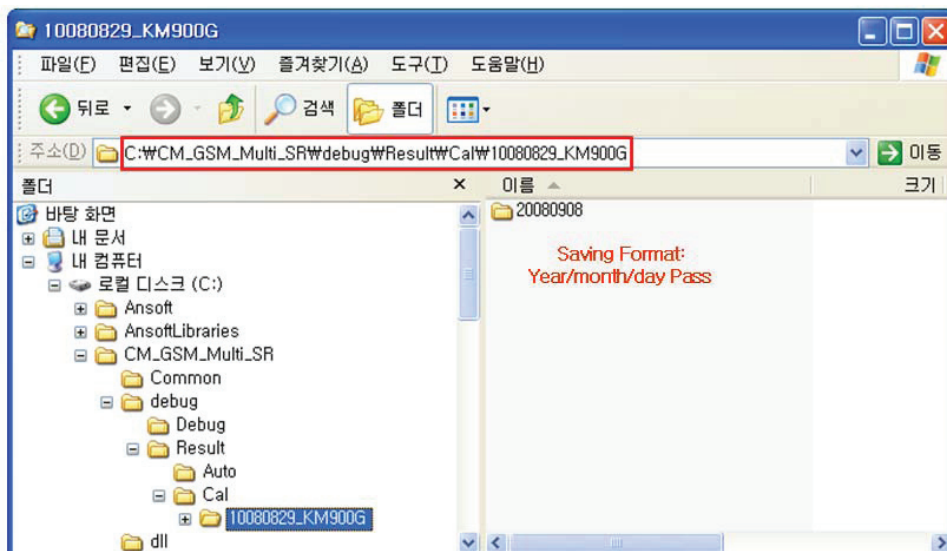
11.2.7. Click "START" for RF calibration



11.2.8. RF Calibration finishes



7.2.8 Calibration data will be saved to the following folder.



11. RF CALIBRATION

Notices:

1. The state of Phone is "ptest mode" during the CALIBRATION.
2. Calibration program automatically changes either "normal mode" or "ptest mode".
3. Phone operation Mode



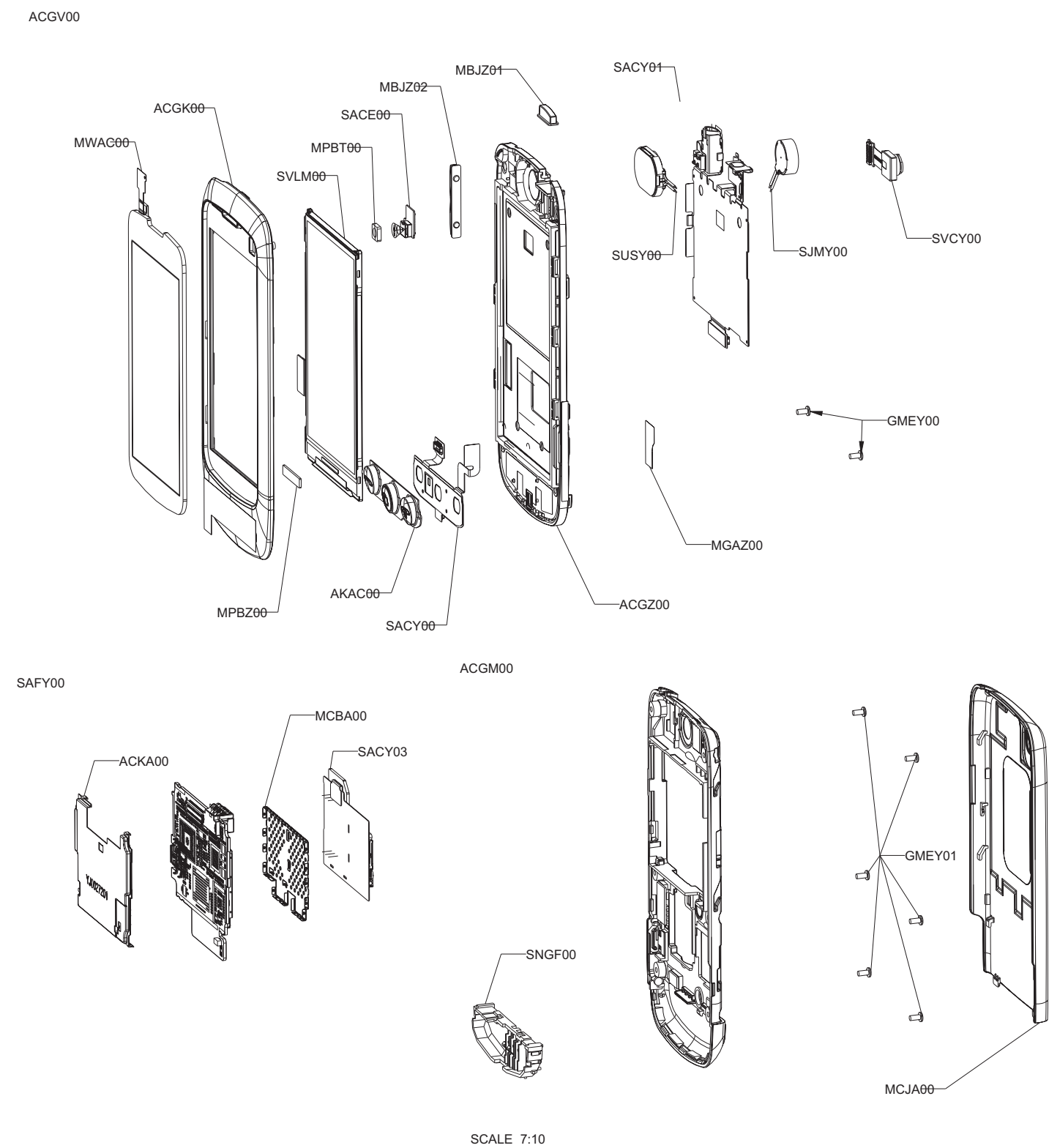
< Normal Mode >



<Ptest Mode>

12. EXPLODED VIEW & REPLACEMENT PART LIST

12.1 EXPLODED VIEW



Location No.	Part Name	Part No.
MCJA00	COVER,BATTERY	MCJA0100501
GMEY01	SCREW MACHINE,BIND	GMEY0011201
SNGF00	INNTENA	SNGF0054601
ACGM00	COVER ASSY,REAR	ACGM0146001
SACY03	PCB ASSY,FLEXIBLE(SUB)	SACY0113301
MCBA00	CAN SHIELD(BOTTOM)	MCBA0062601
ACKA00	CAN ASSY,SHIELD(TOP)	ACKA0027101
SAFY00	PCB ASSY,MAIN	SAFY0351802
GMEY00	SCREW MACHINE,BIND	GMEY0011201
MGAZ00	GASKET(CAMERA_KEY)	MGAZ0088201
SVCY00	CAMERA	SVCY0024501
SJMY00	VIBRATOR,MOTOR	SJMY0008504
SUSY00	SPEAKER	SUSY0028906
SACY01	PCB ASSY,FLEXIBLE(MAIN)	SACY0104501
MBJZ01	BUTTON(LOCK)	MBJZ0015101
MBJZ02	BUTTON(VOLUME)	MBJZ0015201
ACGZ00	COVER ASSY(MIDDLE)	ACGZ0020101
SACY00	PCB ASSY,FLEXIBLE(KEY)	SACY0113201
AKAC00	KEYPAD ASSY,MAIN	AKAC0004801
SACE00	CAMERA(VT)	SACE0105601
MPBT00	PAD,CAMERA(VT)	MPBT0085901
SVLM00	LCD	SVLM0037301
MPBZ00	PAD(DIC)	MPBZ0291101
ACGK00	COVER ASSY,FRONT	ACGK0147901
MWAC00	WINDOW,LCD	MWAC0131001
ACGV00	COVER ASSY,BAR	ACGV00127**
Location No.	Part Name	Part No.

12. EXPLODED VIEW & REPLACEMENT PART LIST

12.2 Replacement Parts <Mechanic component>

Note: This Chapter is used for reference, Part order is ordered by SBOM standard on GCSC

Level	Location No.	Description	Part Number	Spec	Color	Remark
2	AAAY00	ADDITION	AAAY0450601		BLACK	
3	MCJA00	COVER,BATTERY	MCJA0100504	MOLD, PC LUPOY SC-1004A, , , , ,	BROWN	Z
2	APEY	PHONE	APEY0876601		BLACK	
3	ACGM00	COVER ASSY,REAR	ACGM0146001		WITHOUT COLOR	W
4	MCCZ00	CAP	MCCZ0034301	COMPLEX, (empty), , , , ,	WITHOUT COLOR	3'
4	MCJN00	COVER,REAR	MCJN0112201	MOLD, PC LUPOY SC-1004A, , , , ,	WITHOUT COLOR	1'
4	MDAY00	DECO	MDAY0046401	CASTING, Al Alloy, , , , ,	WITHOUT COLOR	9'
4	MLAB00	LABEL,A/S	MLAB0001102	C2000 USASV DIA 4.0	WHITE	14'
4	MPBT00	PAD,CAMERA	MPBT0091901	COMPLEX, (empty), , , , ,	WITHOUT COLOR	6'
4	MPBZ00	PAD	MPBZ0278201	COMPLEX, (empty), , , , ,	WITHOUT COLOR	4'
4	MPBZ01	PAD	MPBZ0278301	COMPLEX, (empty), , , , ,	WITHOUT COLOR	12'
4	MPBZ02	PAD	MPBZ0278401	COMPLEX, (empty), , , , ,	WITHOUT COLOR	13'
4	MPBZ03	PAD	MPBZ0278501	COMPLEX, (empty), , , , ,	WITHOUT COLOR	5'
4	MPBZ04	PAD	MPBZ0291301	COMPLEX, (empty), , , , ,	WITHOUT COLOR	7'
4	MSAZ00	SHEET	MSAZ0060401	COMPLEX, (empty), , , , ,	BLACK	15'
4	MTAB00	TAPE,PROTECTION	MTAB0393701	COMPLEX, (empty), , , , ,	WITHOUT COLOR	11'
4	MTAZ00	TAPE	MTAZ0257401	COMPLEX, (empty), , , , ,	WITHOUT COLOR	8'
4	MWAE00	WINDOW,CAMERA	MWAE0054301	CUTTING, PMMA MR 200, , , , ,	WITHOUT COLOR	10'
3	ACGV00	COVER ASSY,BAR	ACGV0012701		BLACK	A
4	ACGK01	COVER ASSY,FRONT	ACGK0147901		BLACK	C, 4
5	MCJK01	COVER,FRONT	MCJK0117301	MOLD, PC LUPOY SC-1004A, , , , ,	WITHOUT COLOR	#1
6	MICE00	INSERT,NUT	MICE0013501	PRESS, BeCu, , , , ,	WITHOUT COLOR	

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Color	Remark
6	MICE01	INSERT,NUT	MICE0013401	PRESS, BeCu, , , , ,	WITHOUT COLOR	
5	MDAY00	DECO	MDAY0048301	MOLD, PC LUPOY SC-1004A, , , , ,	BLACK	#5
5	MFBZ00	FILTER	MFBZ0005401	COMPLEX, (empty), , , , ,	WITHOUT COLOR	#6
5	MGAZ00	GASKET	MGAZ0087901	COMPLEX, (empty), , , , ,	WITHOUT COLOR	#9
5	MPBG00	PAD,LCD	MPBG0107001	COMPLEX, (empty), , , , ,	WITHOUT COLOR	#8
5	MPBN00	PAD,SPEAKER	MPBN0080501	COMPLEX, (empty), , , , ,	WITHOUT COLOR	#7
5	MTAB00	TAPE,PROTECTION	MTAB0403801	COMPLEX, (empty), , , , ,	WITHOUT COLOR	#10
5	MTAD01	TAPE,WINDOW	MTAD0117101	COMPLEX, (empty), , , , ,	WITHOUT COLOR	#2
5	MTAZ00	TAPE	MTAZ0258401	COMPLEX, (empty), , , , ,	WITHOUT COLOR	#4
5	MTAZ02	TAPE	MTAZ0257101	COMPLEX, (empty), , , , ,	WITHOUT COLOR	#3
4	ACGZ02	COVER ASSY	ACGZ0020101	MIDDLE	BLACK	J, 9
5	MBJZ00	BUTTON	MBJZ0015301	COMPLEX, (empty), , , , ,	WITHOUT COLOR	<12>
5	MCJZ00	COVER	MCJZ0061401	MOLD, PC LUPOY SC-2302, , , , ,	BLACK	<1>
6	MBFZ00	BRACKET	MBFZ0041201	PRESS, STS, 0.4, , , ,	WITHOUT COLOR	
6	MICC00	INSERT,FRONT(UPPER)	MICC0010001	D2.2 L2.0 KURL 45	GOLD	
5	MFBZ00	FILTER	MFBZ0015101	COMPLEX, (empty), , , , ,	WITHOUT COLOR	<10>
5	MGAZ02	GASKET	MGAZ0088101	COMPLEX, (empty), , , , ,	WITHOUT COLOR	<4>
5	MHGZ00	HOLDER	MHGZ0032101	COMPLEX, (empty), , , , ,	WITHOUT COLOR	<11>
5	MPBZ02	PAD	MPBZ0278101	COMPLEX, (empty), , , , ,	WITHOUT COLOR	<14>
5	MTAB03	TAPE,PROTECTION	MTAB0353601	COMPLEX, (empty), , , , ,	WITHOUT COLOR	<13>
5	MTAZ00	TAPE	MTAZ0257701	COMPLEX, (empty), , , , ,	WITHOUT COLOR	<3>
5	MTAZ01	TAPE	MTAZ0257601	COMPLEX, (empty), , , , ,	WITHOUT COLOR	<5>
5	MTAZ02	TAPE	MTAZ0257301	COMPLEX, (empty), , , , ,	WITHOUT COLOR	<6>

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Color	Remark
5	MTAZ03	TAPE	MTAZ0257801	COMPLEX, (empty), , , ,	WITHOUT COLOR	<7>
5	MTAZ04	TAPE	MTAZ0257901	COMPLEX, (empty), , , ,	WITHOUT COLOR	<8>
5	MTAZ05	TAPE	MTAZ0258001	COMPLEX, (empty), , , ,	WITHOUT COLOR	<2>
5	MTAZ06	TAPE	MTAZ0257501	COMPLEX, (empty), , , ,	WITHOUT COLOR	<9>
4	AKAC00	KEYPAD ASSY,MAIN	AKAC0004801		WITHOUT COLOR	H, 5
4	GMEY00	SCREW MACHINE,BIND	GMEY0011201	1.4 mm,3 mm,MSWR3(BK) ,N ,+ ,NYLOK	WITHOUT COLOR	R
4	MBJZ01	BUTTON	MBJZ0015101	COMPLEX, (empty), , , ,	WITHOUT COLOR	L, 13
4	MBJZ02	BUTTON	MBJZ0015201	COMPLEX, (empty), , , ,	WITHOUT COLOR	K, 15
4	MGAZ01	GASKET	MGAZ0088201	COMPLEX, (empty), , , ,	WITHOUT COLOR	Q, 10
4	MPBZ00	PAD	MPBZ0291101	COMPLEX, (empty), , , ,	WITHOUT COLOR	D, 6
4	MPBZ01	PAD	MPBZ0311301	COMPLEX, (empty), , , ,	WITHOUT COLOR	21
4	MTAB00	TAPE,PROTECTION	MTAB0353201	COMPLEX, (empty), , , ,	WITHOUT COLOR	2
4	MTAB01	TAPE,PROTECTION	MTAB0353401	COMPLEX, (empty), , , ,	WITHOUT COLOR	14
4	MTAB02	TAPE,PROTECTION	MTAB0353501	COMPLEX, (empty), , , ,	WITHOUT COLOR	16
4	MTAB03	TAPE,PROTECTION	MTAB0353301	COMPLEX, (empty), , , ,	WITHOUT COLOR	1
4	MWAC01	WINDOW,LCD	MWAC0131001	CUTTING, PMMA MR 200, , , ,	WITHOUT COLOR	B, 3
6	MGAZ00	GASKET	MGAZ0092501	COMPLEX, (empty), , , ,	WITHOUT COLOR	
3	GMEY	SCREW MACHINE,BIND	GMEY0011201	1.4 mm,3 mm,MSWR3(BK) ,N ,+ ,NYLOK	WITHOUT COLOR	Y, 17
3	MLAA00	LABEL,APPROVAL	MLAA0062303	COMPLEX, (empty), , , ,	WITHOUT COLOR	
5	ACKA00	CAN ASSY,SHIELD	ACKA0027101	TOP	WITHOUT COLOR	T
6	MCBA00	CAN,SHIELD	MCBA0062401	PRESS, STS, , , ,	WITHOUT COLOR	
6	MSAZ00	SHEET	MSAZ0067701	COMPLEX, (empty), , , ,	BLACK	

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Color	Remark
6	MTAZ00	TAPE	MTAZ0300801	COMPLEX, (empty), , , , ,	WITHOUT COLOR	
5	MCBA00	CAN,SHIELD	MCBA0062601	PRESS, STS, , , , ,	WITHOUT COLOR	U
7	MGAZ00	GASKET	MGAZ0092601	COMPLEX, (empty), , , , ,	WITHOUT COLOR	
6	SC501	FRAME,SHIELD	MFEA0034501	PRESS, STS, , , , ,	WITHOUT COLOR	

12. EXPLODED VIEW & REPLACEMENT PART LIST

12.2 Replacement Parts

<Main component>

Note: This Chapter is used for reference, Part order is ordered by SBOM standard on GCSC

Level	Location No.	Description	Part Number	Spec	Color	Remark
1		IMT,BAR/FLIP	TIMT0010001		BLACK	
4	SNGF00	ANTENNA,GSM,FIXED	SNGF0054601	3.0 ,-5.0 dBd,, ,internal, GSM quad, Band1,2,5,8 ,; ,MULTI ,-5.0 ,50 ,3.0		X, 2'
4	SACY00	PCB ASSY,FLEXIBLE	SACY0113201			I, 8
5	SACE00	PCB ASSY,FLEXIBLE,SMT	SACE0101901			
6	SACC00	PCB ASSY,FLEXIBLE,SMT BOTTOM	SACC0076201			
7	MIC700	MICROPHONE	SUMY0010609	UNIT ,-42 dB,3.76*2.95*1.1 ,mems smd mic ,; , , ,OMNI ,[empty] , ,[empty]		
6	SACD00	PCB ASSY,FLEXIBLE,SMT TOP	SACD0089301			
7	C701	CAP,CERAMIC,CHIP	ECCH0005604	10000000 pF,6.3V .M ,X5R ,TC ,1608 ,R/TP , , ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,0.8 mm		
7	CN700	CONNECTOR,BOARD TO BOARD	ENBY0039501	20 PIN,0.4 mm,ETC , ,H=1.0, Plug		
7	FB701	FILTER,BEAD,CHIP	SFBH0008105	1800 ohm,1005 ,Chip bead ,; ,1800ohm ,; ,[empty] ,R/TP		
7	L700	INDUCTOR,CHIP	ELCH0004727	100 nH,J ,1005 ,R/TP ,		
7	L701	INDUCTOR,CHIP	ELCH0004727	100 nH,J ,1005 ,R/TP ,		
7	VA701	VARISTOR	SEVY0005202	5.5 V,+30 ,SMD ,1005, 100 pF, Pb free		
7	VA702	VARISTOR	SEVY0005202	5.5 V,+30 ,SMD ,1005, 100 pF, Pb free		
7	VA703	VARISTOR	SEVY0005202	5.5 V,+30 ,SMD ,1005, 100 pF, Pb free		
7	VA704	VARISTOR	SEVY0005202	5.5 V,+30 ,SMD ,1005, 100 pF, Pb free		
7	VA705	VARISTOR	SEVY0005202	5.5 V,+30 ,SMD ,1005, 100 pF, Pb free		
7	VA706	VARISTOR	SEVY0005202	5.5 V,+30 ,SMD ,1005, 100 pF, Pb free		
6	SPCY	PCB,FLEXIBLE	SPCY0206101	POLYI ,2 mm,DOUBLE ,; , , , , , , , , ,		
4	SACY01	PCB ASSY,FLEXIBLE	SACY0104501			M, 11
5	SACB00	PCB ASSY,FLEXIBLE,INSERT	SACB0059001			
5	SACE00	PCB ASSY,FLEXIBLE,SMT	SACE0101801			
6	SACC00	PCB ASSY,FLEXIBLE,SMT BOTTOM	SACC0076101			
7	C819	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP		
7	C820	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Color	Remark
4	SUSY00	SPEAKER	SUSY0028906	ASSY ,8 ohm,91 dB,1812 mm,3.0T 10mm ; , , , , , , , , .[empty]		N
4	SVCY00	CAMERA	SVCY0024501	CMOS ,MEGA ,3M FF Samsung(1/5"), 7x7x4.1,90degree,FPCB		P, 12
4	SVLM00	LCD MODULE	SVLM0037301	Main ,3.0" ,WQVGA ,43.08*75.4*1.8t ,262K ,TFT ,TM S6D14E0 ,20,000 :1 ,		E, 7
3	SAFY00	PCB ASSY,MAIN	SAFY0351801			S
4	SAFB00	PCB ASSY,MAIN,INSERT	SAFB0109301			
5	BRAH00	RESIN,PC	BRAH0001301	; , , , , [empty]	Black	
5	SACY00	PCB ASSY,FLEXIBLE	SACY0113301			V
6	SACB00	PCB ASSY,FLEXIBLE,INSERT	SACB0063201			
6	SACE00	PCB ASSY,FLEXIBLE,SMT	SACE0102001			
7	SACC00	PCB ASSY,FLEXIBLE,SMT BOTTOM	SACC0076301			
8	C601	CAP,CERAMIC,CHIP	ECCH0002001	0.1 uF,6.3V ,K ,B ,HD ,1005 ,R/TP , , , [empty] , [empty] .[empty] . [empty] . [empty] . [empty] ,.5 mm		
8	C602	CAP,CERAMIC,CHIP	ECCH0000117	27 pF,50V ,J,NP0,TC,1005,R/TP		
8	C604	CAP,CERAMIC,CHIP	ECCH0000117	27 pF,50V ,J,NP0,TC,1005,R/TP		
8	C607	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP		
8	CN601	CONNECTOR,BOARD TO BOARD	ENBY0034101	24 PIN,0.4 mm,ETC , ,GB042 H=1.0, Plug		
8	CN602	CONN,SOCKET	ENSY0023801	9 ,ETC , ,0.95 mm,13.3x13.65x1.65t, Detect Pin		
8	J601	CONN,SOCKET	ENSY0022101	6 ,ETC , ,2.54 mm,H=1.5		
8	R601	RES,CHIP,MAKER	ERHZ0000486	47 Kohm,1/16W ,J ,1005 ,R/TP		
8	R602	RES,CHIP,MAKER	ERHZ0000486	47 Kohm,1/16W ,J ,1005 ,R/TP		
8	R603	RES,CHIP,MAKER	ERHZ0000486	47 Kohm,1/16W ,J ,1005 ,R/TP		
8	R604	RES,CHIP,MAKER	ERHZ0000486	47 Kohm,1/16W ,J ,1005 ,R/TP		
8	R605	RES,CHIP,MAKER	ERHZ0000486	47 Kohm,1/16W ,J ,1005 ,R/TP		
8	R606	RES,CHIP	ERHY0000254	4.7K ohm,1/16W ,J,1005,R/TP		
8	VA601	VARISTOR	SEVY0005201	5.5 V ,SMD ,1005, 50pF		
8	VA602	VARISTOR	SEVY0005201	5.5 V ,SMD ,1005, 50pF		
8	VA603	VARISTOR	SEVY0005201	5.5 V ,SMD ,1005, 50pF		
8	VA604	VARISTOR	SEVY0005201	5.5 V ,SMD ,1005, 50pF		
8	VA605	VARISTOR	SEVY0005201	5.5 V ,SMD ,1005, 50pF		
8	VA606	VARISTOR	SEVY0005201	5.5 V ,SMD ,1005, 50pF		

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12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Color	Remark
6	C125	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP		
6	C126	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C127	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C128	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C129	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C130	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C131	CAP,CERAMIC,CHIP	ECCH0009106	10 nF,16V ,K ,X7R ,TC ,0603 ,R/TP		
6	C132	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C133	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP		
6	C134	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP		
6	C135	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C136	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C137	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C138	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP		
6	C139	CAP,CERAMIC,CHIP	ECCH0000112	15 pF,50V,J,NP0,TC,1005,R/TP		
6	C140	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C141	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C142	CAP,CERAMIC,CHIP	ECCH0017301	1000000 pF,6.3V ,M ,X5R ,HD ,0603 ,R/TP , , ,1 ,20% ,6.3V ,X5R , -55TO+85C ,0603 ,R/TP ,0.3 mm		
6	C143	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C144	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C145	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C146	CAP,CERAMIC,CHIP	ECCH0000112	15 pF,50V,J,NP0,TC,1005,R/TP		
6	C147	CAP,CERAMIC,CHIP	ECCH0009106	10 nF,16V ,K ,X7R ,TC ,0603 ,R/TP		
6	C148	CAP,CHIP,MAKER	ECZH0001216	220 nF,10V ,K ,X5R ,TC ,1005 ,R/TP		
6	C149	CAP,CERAMIC,CHIP	ECCH0002001	0.1 uF,6.3V ,K ,B ,HD ,1005 ,R/TP , , ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,.5 mm		
6	C150	CAP,CERAMIC,CHIP	ECCH0009106	10 nF,16V ,K ,X7R ,TC ,0603 ,R/TP		
6	C151	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C152	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
6	C153	CAP,CERAMIC,CHIP	ECCH0017301	1000000 pF,6.3V ,M ,X5R ,HD ,0603 ,R/TP , , ,1 ,20% ,6.3V ,X5R , -55TO+85C ,0603 ,R/TP ,0.3 mm		
6	C203	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Color	Remark
6	C204	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C206	CAP,CERAMIC,CHIP	ECCH0007802	4.7 uF,10V ,M ,X5R ,TC ,1608 ,R/TP		
6	C207	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C208	CAP,CERAMIC,CHIP	ECCH0005604	10000000 pF,6.3V ,M ,X5R ,TC ,1608 ,R/TP , , [empty] ,[empty] , [empty] , [empty] , [empty] , [empty] , 0.8 mm		
6	C209	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
6	C210	CAP,CERAMIC,CHIP	ECCH0000122	47 pF,50V,J,NP0,TC,1005,R/TP		
6	C212	CAP,CERAMIC,CHIP	ECCH0007802	4.7 uF,10V ,M ,X5R ,TC ,1608 ,R/TP		
6	C213	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C215	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C216	CAP,CERAMIC,CHIP	ECCH0007802	4.7 uF,10V ,M ,X5R ,TC ,1608 ,R/TP		
6	C217	CAP,CERAMIC,CHIP	ECCH0000117	27 pF,50V,J,NP0,TC,1005,R/TP		
6	C218	CAP,CERAMIC,CHIP	ECCH0005603	2.2 uF,10V ,K ,X5R ,TC ,1608 ,R/TP		
6	C221	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C222	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
6	C223	CAP,CERAMIC,CHIP	ECCH0007802	4.7 uF,10V ,M ,X5R ,TC ,1608 ,R/TP		
6	C224	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
6	C225	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C226	CAP,CERAMIC,CHIP	ECCH0005604	10000000 pF,6.3V ,M ,X5R ,TC ,1608 ,R/TP , , [empty] ,[empty] , [empty] , [empty] , [empty] , [empty] , 0.8 mm		
6	C227	CAP,TANTAL,CHIP	ECTH0001902	10 uF,10V ,M ,L ,ESR ,1608 ,R/TP		
6	C228	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP		
6	C229	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
6	C230	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C231	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
6	C232	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP		
6	C233	CAP,CERAMIC,CHIP	ECCH0005603	2.2 uF,10V ,K ,X5R ,TC ,1608 ,R/TP		
6	C234	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
6	C235	CAP,CERAMIC,CHIP	ECCH0005603	2.2 uF,10V ,K ,X5R ,TC ,1608 ,R/TP		
6	C236	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
6	C237	CAP,CERAMIC,CHIP	ECCH0007802	4.7 uF,10V ,M ,X5R ,TC ,1608 ,R/TP		
6	C238	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP		
6	C239	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Color	Remark
6	C240	CAP,CERAMIC,CHIP	ECCH0005604	10000000 pF,6.3V ,M ,X5R ,TC ,1608 ,R/TP , , [empty] [empty] [empty] [empty] [empty] [empty] ,0.8 mm		
6	C241	CAP,CERAMIC,CHIP	ECCH0005604	10000000 pF,6.3V ,M ,X5R ,TC ,1608 ,R/TP , , [empty] [empty] [empty] [empty] [empty] [empty] ,0.8 mm		
6	C242	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
6	C243	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C244	CAP,CERAMIC,CHIP	ECCH0000110	10 pF,50V,D,NP0,TC,1005,R/TP		
6	C245	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
6	C246	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
6	C247	CAP,CERAMIC,CHIP	ECCH0005604	10000000 pF,6.3V ,M ,X5R ,TC ,1608 ,R/TP , , [empty] [empty] [empty] [empty] [empty] [empty] ,0.8 mm		
6	C248	CAP,CERAMIC,CHIP	ECCH0005603	2.2 uF,10V ,K ,X5R ,TC ,1608 ,R/TP		
6	C249	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
6	C250	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
6	C251	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP		
6	C254	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP		
6	C258	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP		
6	C266	CAP,CHIP,MAKER	ECZH0003503	1 uF,25V ,K ,X5R ,HD ,1608 ,R/TP		
6	C307	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP		
6	C308	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP		
6	C309	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP		
6	C310	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP		
6	C406	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
6	C409	CAP,CERAMIC,CHIP	ECCH0000185	5.6 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C410	CAP,CERAMIC,CHIP	ECCH0004906	2.5 pF,50V ,C ,X7R ,TC ,1005 ,R/TP		
6	C413	CAP,CERAMIC,CHIP	ECCH0000122	47 pF,50V,J,NP0,TC,1005,R/TP		
6	C416	CAP,CERAMIC,CHIP	ECCH0005604	10000000 pF,6.3V ,M ,X5R ,TC ,1608 ,R/TP , , [empty] [empty] [empty] [empty] [empty] [empty] ,0.8 mm		
6	C417	CAP,CERAMIC,CHIP	ECCH0000179	22 nF,16V ,K ,X5R ,HD ,1005 ,R/TP		
6	C418	CAP,CERAMIC,CHIP	ECCH0000179	22 nF,16V ,K ,X5R ,HD ,1005 ,R/TP		
6	C419	CAP,CERAMIC,CHIP	ECCH0000129	120 pF,50V,J,NP0,TC,1005,R/TP		
6	C420	CAP,CERAMIC,CHIP	ECCH0000122	47 pF,50V,J,NP0,TC,1005,R/TP		
6	C421	CAP,CERAMIC,CHIP	ECCH0000117	27 pF,50V,J,NP0,TC,1005,R/TP		
6	C422	CAP,CERAMIC,CHIP	ECCH0000117	27 pF,50V,J,NP0,TC,1005,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Color	Remark
6	C423	CAP,CERAMIC,CHIP	ECCH0000110	10 pF,50V,D,NP0,TC,1005,R/TP		
6	C424	CAP,CERAMIC,CHIP	ECCH0007802	4.7 uF,10V ,M ,X5R ,TC ,1608 ,R/TP		
6	C425	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP		
6	C436	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
6	C437	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C438	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C441	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP		
6	C444	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
6	C445	CAP,CHIP,MAKER	ECZH0001217	470 nF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C446	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
6	C460	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
6	C461	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP		
6	C462	CAP,CERAMIC,CHIP	ECCH0000117	27 pF,50V,J,NP0,TC,1005,R/TP		
6	C463	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
6	C465	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C466	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
6	C467	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
6	C468	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C469	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C470	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C471	CAP,CHIP,MAKER	ECZH0001216	220 nF,10V ,K ,X5R ,TC ,1005 ,R/TP		
6	C472	CAP,CHIP,MAKER	ECZH0001216	220 nF,10V ,K ,X5R ,TC ,1005 ,R/TP		
6	C473	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
6	C475	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP		
6	C476	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C477	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C478	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
6	C479	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP		
6	C480	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP		
6	C481	INDUCTOR,CHIP	ELCH0001416	2.7 nH,S ,1005 ,R/TP ,PBFREE		
6	C482	INDUCTOR,CHIP	ELCH0001420	3.9 nH,S ,1005 ,R/TP ,PBFREE		
6	CN201	CONNECTOR,ETC	ENZY0027601	3 ,2.5 mm,ETC , - , -		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Color	Remark
6	CN304	CONNECTOR,BOARD TO BOARD	ENBY0036801	60 PIN,0.4 mm,ETC , ,H=1.0, Socket		
6	D201	DIODE,SWITCHING	EDSY0017701	SOD-123 ,40 V,1 A,R/TP , ; , , , , , , [empty] ,[empty] ,2P ,1		
6	D202	DIODE,SWITCHING	EDSY0017701	SOD-123 ,40 V,1 A,R/TP , ; , , , , , , [empty] ,[empty] ,2P ,1		
6	FB201	FILTER,BEAD,CHIP	SFBH0009201	220 ohm,1608 ,		
6	FB202	FILTER,BEAD,CHIP	SFBH0000912	1000 ohm,1005 ,		
6	FB203	FILTER,BEAD,CHIP	SFBH0009201	220 ohm,1608 ,		
6	FB304	FILTER,BEAD,CHIP	SFBH0009601	220 ohm,1005 ,DCR : 0.35 , Rated current : 500mA,PBFREE		
6	FB305	FILTER,BEAD,CHIP	SFBH0009601	220 ohm,1005 ,DCR : 0.35 , Rated current : 500mA,PBFREE		
6	FB306	FILTER,BEAD,CHIP	SFBH0009601	220 ohm,1005 ,DCR : 0.35 , Rated current : 500mA,PBFREE		
6	FB308	FILTER,BEAD,CHIP	SFBH0009601	220 ohm,1005 ,DCR : 0.35 , Rated current : 500mA,PBFREE		
6	FB401	FILTER,BEAD,CHIP	SFBH0001503	600 ohm,1608 ,		
6	FB402	FILTER,BEAD,CHIP	SFBH0008105	1800 ohm,1005 ,Chip bead , ; ,1800ohm , ; ,[empty] ,R/TP		
6	FB403	FILTER,BEAD,CHIP	SFBH0008105	1800 ohm,1005 ,Chip bead , ; ,1800ohm , ; ,[empty] ,R/TP		
6	FB404	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	FB405	FILTER,BEAD,CHIP	SFBH0001503	600 ohm,1608 ,		
6	FL402	FILTER,CERAMIC	SFCY0000901	2450 MHz,2.00*1.25*0.95 ,SMD ,Bluetooth Band Pass Filter		
6	L101	INDUCTOR,CHIP	ELCH0001430	100 nH,J ,1005 ,R/TP ,PBFREE		
6	L102	INDUCTOR,CHIP	ELCH0001430	100 nH,J ,1005 ,R/TP ,PBFREE		
6	L103	INDUCTOR,CHIP	ELCH0001430	100 nH,J ,1005 ,R/TP ,PBFREE		
6	L104	INDUCTOR,CHIP	ELCH0001430	100 nH,J ,1005 ,R/TP ,PBFREE		
6	L201	INDUCTOR,SMD,POWER	ELCP0006703	10 uH,M ,3.2*2.6*1.0 ,R/TP ,		
6	L202	INDUCTOR,SMD,POWER	ELCP0006703	10 uH,M ,3.2*2.6*1.0 ,R/TP ,		
6	L401	INDUCTOR,CHIP	ELCH0009114	100 nH,J ,1005 ,R/TP ,coil		
6	L402	INDUCTOR,CHIP	ELCH0009114	100 nH,J ,1005 ,R/TP ,coil		
6	L403	INDUCTOR,CHIP	ELCH0005009	100 nH,J ,1005 ,R/TP ,		
6	L404	INDUCTOR,CHIP	ELCH0005009	100 nH,J ,1005 ,R/TP ,		
6	Q201	TR,BJT,NPN	EQBNO013701	EMT6 ,150 mW,R/TP ,DUAL TRANSISTORS		
6	R103	RES,CHIP	ERHY0009522	3.3 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Color	Remark
6	R105	RES,CHIP,MAKER	ERHZ0000294	5100 ohm,1/16W ,F ,1005 ,R/TP		
6	R106	RES,CHIP,MAKER	ERHZ0000244	22 Kohm,1/16W ,F ,1005 ,R/TP		
6	R107	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP		
6	R108	RES,CHIP,MAKER	ERHZ0000484	470 ohm,1/16W ,J ,1005 ,R/TP		
6	R109	RES,CHIP,MAKER	ERHZ0000484	470 ohm,1/16W ,J ,1005 ,R/TP		
6	R110	RES,CHIP,MAKER	ERHZ0000484	470 ohm,1/16W ,J ,1005 ,R/TP		
6	R111	RES,CHIP,MAKER	ERHZ0000244	22 Kohm,1/16W ,F ,1005 ,R/TP		
6	R112	RES,CHIP,MAKER	ERHZ0000267	3300 ohm,1/16W ,F ,1005 ,R/TP		
6	R114	RES,CHIP,MAKER	ERHZ0000484	470 ohm,1/16W ,J ,1005 ,R/TP		
6	R115	RES,CHIP	ERHY0009302	1 Kohm,1/20W(0.05W) ,F ,0603 ,R/TP		
6	R116	RES,CHIP	ERHY0009505	10 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R117	RES,CHIP	ERHY0000166	390 Kohm,1/16W ,F ,1005 ,R/TP		
6	R118	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP		
6	R120	RES,CHIP	ERHY0000254	4.7K ohm,1/16W ,J ,1005 ,R/TP		
6	R121	RES,CHIP,MAKER	ERHZ0000443	2200 ohm,1/16W ,J ,1005 ,R/TP		
6	R122	RES,CHIP,MAKER	ERHZ0000441	22 ohm,1/16W ,J ,1005 ,R/TP		
6	R123	RES,CHIP,MAKER	ERHZ0000204	100 Kohm,1/16W ,F ,1005 ,R/TP		
6	R124	RES,CHIP	ERHY0000254	4.7K ohm,1/16W ,J ,1005 ,R/TP		
6	R126	RES,CHIP	ERHY0009302	1 Kohm,1/20W(0.05W) ,F ,0603 ,R/TP		
6	R127	RES,CHIP,MAKER	ERHZ0000443	2200 ohm,1/16W ,J ,1005 ,R/TP		
6	R131	RES,CHIP,MAKER	ERHZ0000484	470 ohm,1/16W ,J ,1005 ,R/TP		
6	R144	RES,CHIP,MAKER	ERHZ0000484	470 ohm,1/16W ,J ,1005 ,R/TP		
6	R202	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP		
6	R206	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP		
6	R208	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP		
6	R212	RES,CHIP	ERHY0009526	4.7 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R215	RES,CHIP	ERHY0009506	100 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R216	RES,CHIP	ERHY0009526	4.7 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R217	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP		
6	R218	RES,CHIP,MAKER	ERHZ0000236	2000 ohm,1/16W ,F ,1005 ,R/TP		
6	R219	RES,CHIP,MAKER	ERHZ0000204	100 Kohm,1/16W ,F ,1005 ,R/TP		
6	R220	RES,CHIP,MAKER	ERHZ0000454	27 Kohm,1/16W ,J ,1005 ,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Color	Remark
6	R222	RES,CHIP	ERHY0009526	4.7 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R224	RES,CHIP	ERHY0003201	1000 ohm,1/16W ,F ,1005 ,R/TP		
6	R228	RES,CHIP,MAKER	ERHZ0000286	4700 ohm,1/16W ,F ,1005 ,R/TP		
6	R230	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP		
6	R234	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP		
6	R406	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP		
6	R407	RES,CHIP,MAKER	ERHZ0000204	100 Kohm,1/16W ,F ,1005 ,R/TP		
6	R410	RES,CHIP,MAKER	ERHZ0000529	1.5 Kohm,1/16W ,J ,1005 ,R/TP		
6	R411	RES,CHIP,MAKER	ERHZ0000439	200 Kohm,1/16W ,J ,1005 ,R/TP		
6	R412	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP		
6	R413	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP		
6	R414	RES,CHIP,MAKER	ERHZ0000443	2200 ohm,1/16W ,J ,1005 ,R/TP		
6	R415	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	R416	RES,CHIP	ERHY0009524	47 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R417	RES,CHIP,MAKER	ERHZ0000445	220 Kohm,1/16W ,J ,1005 ,R/TP		
6	R418	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	R419	RES,CHIP,MAKER	ERHZ0000407	1000 Kohm,1/16W ,J ,1005 ,R/TP		
6	R422	FILTER,BEAD,CHIP	SFBH0008105	1800 ohm,1005 ,Chip bead ,; ,1800ohm ,; ,[empty] ,R/TP		
6	R429	RES,CHIP,MAKER	ERHZ0000285	470 ohm,1/16W ,F ,1005 ,R/TP		
6	R430	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP		
6	R431	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP		
6	R433	RES,CHIP,MAKER	ERHZ0000285	470 ohm,1/16W ,F ,1005 ,R/TP		
6	R434	RES,CHIP	ERHY0000241	1K ohm,1/16W,J,1005,R/TP		
6	U101	IC	EUSY0306201	Micro pak ,8 PIN,R/TP ,D Flip Flip		
6	U102	IC	EUSY0355101	BGA ,389 PIN,R/TP ,MP-EH / HSDPA 7.2 Mbps / Display HVGA /3M CAM / H.263 / AGPS ,; ,IC,Digital Baseband Processor		
6	U103	IC	EUSY0388101	FBGA ,149 ,ETC ,FULLY 1.8V 2G(LB/128Mx16) NAND+1G(DDR/16Mx4x16) SDRAM ,; ,IC,MCP		
6	U205	IC	EUSY0323901	BGA PG-WFSGA ,121 PIN,R/TP ,SMPOWER3		
6	U207	IC	EUSY0388501	DFN ,10 ,R/TP ,Cal Test Mode Single Charger IC for Micro USB ,; ,IC,Charger		
6	U401	IC	EUSY0196901	SC70-5 ,5 PIN,R/TP ,Single Inverter, Pb Free		
6	U403	IC	EUSY0394501	WLCSP ,39 ,R/TP ,3.2x3.6x0.6, BT2.1+FM Rx/Tx, 90n ,; ,IC,Bluetooth		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Color	Remark
6	U408	IC	EUSY0250501	SC70 ,5 PIN,R/TP ,Comparator, pin compatible to EUSY0077701		
6	U410	IC	EUSY0390501	WLCSP ,20 ,R/TP , , ,IC,Audio Sub System		
6	U411	IC	EUSY0378301	DFN ,10 ,R/TP ,3-Axis Acceleration Sensor, 3*3 , ,IC,PMIC		
6	VA302	VARISTOR	SEVY0004001	18 V ,SMD ,3pF, 1005		
6	VA303	VARISTOR	SEVY0004401	18 V ,SMD ,40pF, 1005		
6	VA304	VARISTOR	SEVY0004401	18 V ,SMD ,40pF, 1005		
6	VA305	VARISTOR	SEVY0004401	18 V ,SMD ,40pF, 1005		
6	VA306	VARISTOR	SEVY0004401	18 V ,SMD ,40pF, 1005		
6	VA307	VARISTOR	SEVY0004401	18 V ,SMD ,40pF, 1005		
6	VA308	VARISTOR	SEVY0004401	18 V ,SMD ,40pF, 1005		
6	VA309	VARISTOR	SEVY0004401	18 V ,SMD ,40pF, 1005		
6	VA310	VARISTOR	SEVY0004401	18 V ,SMD ,40pF, 1005		
6	VA311	VARISTOR	SEVY0004001	18 V ,SMD ,3pF, 1005		
6	VA312	VARISTOR	SEVY0004401	18 V ,SMD ,40pF, 1005		
6	VA313	VARISTOR	SEVY0004401	18 V ,SMD ,40pF, 1005		
6	VA314	VARISTOR	SEVY0004401	18 V ,SMD ,40pF, 1005		
6	VA315	VARISTOR	SEVY0004401	18 V ,SMD ,40pF, 1005		
6	X101	X-TAL	EXXY0018701	32.768 KHz,20 PPM,12.5 pF,70 Kohm,SMD ,3.2*1.5*0.9 ,		
5	SAFD	PCB ASSY,MAIN,SMT TOP	SAFD0136101			
6	BAT201	MODULE,ETC	SMZY0023501	3.8 Backup Capacitor 0.03F , ,Module Assembly		
6	C201	CAP,CHIP,MAKER	ECZH0001120	3.9 nF,50V ,K ,X7R ,HD ,1005 ,R/TP , , ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,[empty]		
6	C202	CAP,CERAMIC,CHIP	ECCH0005603	2.2 uF,10V ,K ,X5R ,TC ,1608 ,R/TP		
6	C205	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP		
6	C211	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C214	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP		
6	C219	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP		
6	C220	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP		
6	C252	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP		
6	C253	CAP,CERAMIC,CHIP	ECCH0005603	2.2 uF,10V ,K ,X5R ,TC ,1608 ,R/TP		
6	C255	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Color	Remark
6	C256	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
6	C259	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP		
6	C260	CAP,CHIP,MAKER	ECZH0003503	1 uF,25V ,K ,X5R ,HD ,1608 ,R/TP		
6	C265	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C267	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
6	C268	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
6	C269	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP		
6	C270	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP		
6	C301	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP		
6	C302	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP		
6	C303	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP		
6	C304	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP		
6	C311	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP		
6	C314	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP		
6	C315	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP		
6	C316	CAP,CERAMIC,CHIP	ECCH0005603	2.2 uF,10V ,K ,X5R ,TC ,1608 ,R/TP		
6	C401	CAP,CERAMIC,CHIP	ECCH0000180	3.3 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C402	CAP,CERAMIC,CHIP	ECCH0000180	3.3 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C403	CAP,CERAMIC,CHIP	ECCH0000180	3.3 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C404	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP		
6	C405	CAP,CERAMIC,CHIP	ECCH0000180	3.3 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C502	CAP,CERAMIC,CHIP	ECCH0009106	10 nF,16V ,K ,X7R ,TC ,0603 ,R/TP		
6	C503	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C504	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C505	CAP,CERAMIC,CHIP	ECCH0000105	4 pF,50V,C,NP0,TC,1005,R/TP		
6	C506	CAP,CERAMIC,CHIP	ECCH0000105	4 pF,50V,C,NP0,TC,1005,R/TP		
6	C510	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C511	CAP,CERAMIC,CHIP	ECCH0009106	10 nF,16V ,K ,X7R ,TC ,0603 ,R/TP		
6	C512	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C515	CAP,CERAMIC,CHIP	ECCH0000122	47 pF,50V,J,NP0,TC,1005,R/TP		
6	C517	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP		
6	C518	CAP,CHIP,MAKER	ECZH0000846	8.2 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Color	Remark
6	C519	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP		
6	C520	CAP,CERAMIC,CHIP	ECCH0000122	47 pF,50V,J,NP0,TC,1005,R/TP		
6	C522	CAP,CERAMIC,CHIP	ECCH0000901	2.2 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C523	CAP,CERAMIC,CHIP	ECCH0009106	10 nF,16V ,K ,X7R ,TC ,0603 ,R/TP		
6	C524	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP		
6	C525	CAP,CERAMIC,CHIP	ECCH0000195	3.9 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C526	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP		
6	C530	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C532	CAP,CHIP,MAKER	ECZH0025920	1 nF,16V ,K ,X7R ,HD ,0603 ,R/TP , , [empty] ,[empty] ,[empty] ,[empty] ,[empty] ,[empty]		
6	C533	CAP,CERAMIC,CHIP	ECCH0000122	47 pF,50V,J,NP0,TC,1005,R/TP		
6	C534	CAP,CERAMIC,CHIP	ECCH0000180	3.3 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C536	CAP,CERAMIC,CHIP	ECCH0009106	10 nF,16V ,K ,X7R ,TC ,0603 ,R/TP		
6	C537	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP		
6	C538	CAP,CERAMIC,CHIP	ECCH0009106	10 nF,16V ,K ,X7R ,TC ,0603 ,R/TP		
6	C540	CAP,CERAMIC,CHIP	ECCH0000180	3.3 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C541	CAP,CERAMIC,CHIP	ECCH0000901	2.2 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C542	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP , , [empty] ,[empty] ,C0G ,[empty] ,[empty] ,[empty] ,0.3 mm		
6	C543	CAP,CERAMIC,CHIP	ECCH0000701	1.2 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C545	CAP,CERAMIC,CHIP	ECCH0009106	10 nF,16V ,K ,X7R ,TC ,0603 ,R/TP		
6	C546	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C547	CAP,CERAMIC,CHIP	ECCH0000901	2.2 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C548	CAP,CERAMIC,CHIP	ECCH0000901	2.2 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C550	CAP,CHIP,MAKER	ECZH0000822	1.5 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C551	CAP,CERAMIC,CHIP	ECCH0000901	2.2 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C553	CAP,CHIP,MAKER	ECZH0000846	8.2 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C554	INDUCTOR,CHIP	ELCH0004730	33 nH,J ,1005 ,R/TP ,		
6	C555	CAP,CERAMIC,CHIP	ECCH0000122	47 pF,50V,J,NP0,TC,1005,R/TP		
6	C556	CAP,CHIP,MAKER	ECZH0000839	4.7 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C557	CAP,CERAMIC,CHIP	ECCH0000113	18 pF,50V,J,NP0,TC,1005,R/TP		
6	C558	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C560	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Color	Remark
6	C561	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C562	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C563	CAP,CHIP,MAKER	ECZH0000822	1.5 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C564	INDUCTOR,CHIP	ELCH0001404	1.5 nH,S,1005,R/TP		
6	C565	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C566	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP		
6	C567	CAP,CHIP,MAKER	ECZH0025920	1 nF,16V ,K ,X7R ,HD ,0603 ,R/TP , , ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,[empty]		
6	C568	CAP,CHIP,MAKER	ECZH0025920	1 nF,16V ,K ,X7R ,HD ,0603 ,R/TP , , ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,[empty]		
6	C569	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP		
6	C570	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C571	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C572	CAP,CERAMIC,CHIP	ECCH0000110	10 pF,50V,D,NP0,TC,1005,R/TP		
6	C574	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C575	CAP,CERAMIC,CHIP	ECCH0000901	2.2 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C576	CAP,CERAMIC,CHIP	ECCH0000901	2.2 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C577	CAP,CERAMIC,CHIP	ECCH0000901	2.2 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C578	CAP,CHIP,MAKER	ECZH0000822	1.5 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C579	CAP,CHIP,MAKER	ECZH0001002	0.5 pF,50V ,B ,NP0 ,TC ,1005 ,R/TP		
6	C581	CAP,CERAMIC,CHIP	ECCH0009105	82 pF,50V ,J ,X7R ,TC ,0603 ,R/TP		
6	C582	CAP,CERAMIC,CHIP	ECCH0000180	3.3 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C583	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
6	C584	CAP,CERAMIC,CHIP	ECCH0000122	47 pF,50V,J,NP0,TC,1005,R/TP		
6	C585	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C586	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP		
6	C587	INDUCTOR,CHIP	ELCH0004701	12 nH,J ,1005 ,R/TP ,		
6	C588	CAP,TANTAL,CHIP	ECTH0001902	10 uF,10V ,M ,L_ESR ,1608 ,R/TP		
6	C592	CAP,CERAMIC,CHIP	ECCH0000122	47 pF,50V,J,NP0,TC,1005,R/TP		
6	C593	CAP,CHIP,MAKER	ECZH0001002	0.5 pF,50V ,B ,NP0 ,TC ,1005 ,R/TP		
6	C595	CAP,CHIP,MAKER	ECZH0000844	68 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C596	CAP,CERAMIC,CHIP	ECCH0005603	2.2 uF,10V ,K ,X5R ,TC ,1608 ,R/TP		
6	C599	CAP,CERAMIC,CHIP	ECCH0005603	2.2 uF,10V ,K ,X5R ,TC ,1608 ,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Color	Remark
6	C600	CAP,CHIP,MAKER	ECZH0000844	68 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C603	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP , , [empty] , [empty] ,C0G , [empty] , [empty] , [empty] ,0.3 mm		
6	C604	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP , , [empty] , [empty] ,C0G , [empty] , [empty] , [empty] ,0.3 mm		
6	C606	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP		
6	C607	CAP,CHIP,MAKER	ECZH0000822	1.5 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C608	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP , , [empty] , [empty] ,C0G , [empty] , [empty] , [empty] ,0.3 mm		
6	C609	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP , , [empty] , [empty] ,C0G , [empty] , [empty] , [empty] ,0.3 mm		
6	C610	CAP,CHIP,MAKER	ECZH0001216	220 nF,10V ,K ,X5R ,TC ,1005 ,R/TP		
6	C611	CAP,TANTAL,CHIP	ECTH0001902	10 uF,10V ,M ,L _ESR ,1608 ,R/TP		
6	C612	INDUCTOR,CHIP	ELCH0001416	2.7 nH,S ,1005 ,R/TP ,PBFREE		
6	C613	CAP,CERAMIC,CHIP	ECCH0000195	3.9 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C614	INDUCTOR,CHIP	ELCH0005009	100 nH,J ,1005 ,R/TP ,		
6	C615	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C616	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C707	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C708	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C709	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C710	CAP,CERAMIC,CHIP	ECCH0000179	22 nF,16V ,K ,X5R ,HD ,1005 ,R/TP		
6	C711	CAP,CERAMIC,CHIP	ECCH0000179	22 nF,16V ,K ,X5R ,HD ,1005 ,R/TP		
6	CN301	CONNECTOR,BOARD TO BOARD	ENBY0034201	24 PIN,0.4 mm,ETC , ,GB042 H=1.0, Socket		
6	CN302	CONNECTOR,I/O	ENRY0010501	5 ,0.4 mm,ANGLE ,Gold ,SUS Plate, 0.75 PCB , ,5 ,0.40MM ,ANGLE ,RECEPTACLE ,DIP , [empty] , -		
6	CN303	CONNECTOR,BOARD TO BOARD	ENBY0036001	40 PIN,0.4 mm,ETC , ,H=1.0, Socket		
6	CN305	CONNECTOR,BOARD TO BOARD	ENBY0039601	20 PIN,0.4 mm,ETC , ,H=1.0, Socket		
6	FB309	FILTER,BEAD,CHIP	SFBH0009601	220 ohm,1005 ,DCR : 0.35 , Rated current : 500mA,PBFREE		
6	FB310	FILTER,BEAD,CHIP	SFBH0009601	220 ohm,1005 ,DCR : 0.35 , Rated current : 500mA,PBFREE		
6	FB311	FILTER,BEAD,CHIP	SFBH0009601	220 ohm,1005 ,DCR : 0.35 , Rated current : 500mA,PBFREE		
6	FB312	FILTER,BEAD,CHIP	SFBH0009601	220 ohm,1005 ,DCR : 0.35 , Rated current : 500mA,PBFREE		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Color	Remark
6	FB313	FILTER,BEAD,CHIP	SFBH0009601	220 ohm,1005 ,DCR : 0.35 , Rated current : 500mA,PBFREE		
6	FB501	FILTER,BEAD,CHIP	SFBH0009901	120 ohm,1005 ,		
6	FB502	FILTER,BEAD,CHIP	SFBH0008102	1800 ohm,1005 ,Bead		
6	FB503	FILTER,BEAD,CHIP	SFBH0008105	1800 ohm,1005 ,Chip bead ,; ,1800ohm ,; ,[empty] ,R/TP		
6	FB504	FILTER,BEAD,CHIP	SFBH0008105	1800 ohm,1005 ,Chip bead ,; ,1800ohm ,; ,[empty] ,R/TP		
6	FB505	FILTER,BEAD,CHIP	SFBH0008102	1800 ohm,1005 ,Bead		
6	FB506	FILTER,BEAD,CHIP	SFBH0008105	1800 ohm,1005 ,Chip bead ,; ,1800ohm ,; ,[empty] ,R/TP		
6	FB507	FILTER,BEAD,CHIP	SFBH0008105	1800 ohm,1005 ,Chip bead ,; ,1800ohm ,; ,[empty] ,R/TP		
6	FL301	FILTER,EMI/POWER	SFEY0010501	SMD ,SMD ,18 V,4ch. EMI_ESD Filter (100Ohm,15pF), Pb-free		
6	FL302	FILTER,EMI/POWER	SFEY0015501	SMD ,Pb-free_4ch_5p-100ohm-5p ,; ,Filter,LCR		
6	FL303	FILTER,EMI/POWER	SFEY0006501	SMD ,3 TERMINAL EMI FILTER		
6	FL304	FILTER,EMI/POWER	SFEY0010501	SMD ,SMD ,18 V,4ch. EMI_ESD Filter (100Ohm,15pF), Pb-free		
6	FL305	FILTER,EMI/POWER	SFEY0010501	SMD ,SMD ,18 V,4ch. EMI_ESD Filter (100Ohm,15pF), Pb-free		
6	FL306	FILTER,EMI/POWER	SFEY0015501	SMD ,Pb-free_4ch_5p-100ohm-5p ,; ,Filter,LCR		
6	FL501	FILTER,SAW	SFSY0035003	2140 MHz,1.4*1.1*0.45 ,SMD ,2110M~2170M, IL 2.3, 5pin, U-B, 50-200_13, W-BAND I RX ,; ,2140 ,1.4*1.1*0.45 ,SMD ,R/TP		
6	FL502	FILTER,SEPERATOR	SFAY0012501	, , dB, dB, dB,4532 ,		
6	FL503	FILTER,SAW	SFSY0032901	1950 MHz,1.4*1.1*0.6 ,SMD ,1920M~1980M, IL 2.6, 5pin, B-U, 200_27-50, WCDMA BAND I Tx ,; ,1950 ,1.4*1.1*0.6 ,SMD ,R/TP		
6	FL504	FILTER,SAW	SFSY0040601	942.5 MHz,1.4*1.1*0.4 ,SMD ,925M~960M, IL 2.8, 5pin, U-B, 50-150, W-BAND VIII RX ,; ,942.5 ,1.4*1.1*0.4 ,SMD ,R/TP		
6	FL505	DUPLEXER,IMT	SDMY0001901	1950 MHz,2140 MHz,1.8 dB,2.4 dB,52 dB,43 dB,2.5*2.0*0.55 ,SMD ,Band1, 2520size, SAW, Rx unbal ,; ,2140 ,2110 to 2170 ,1950 ,1920 to 1980 ,2.4 ,1.8 ,2.5x2.0x0.55 ,DUAL ,SMD ,R/TP		
6	FL506	DUPLEXER,IMT	SDMY0002001	897.5 MHz,942.5 MHz,3.1 dB,3.5 dB,52 dB,45 dB,2.5*2.0*0.5 ,SMD ,SAW, Band8, Rx unbal ,; ,942.5 ,927.4 to 957.6 ,897.5 ,882.4 to 912.6 ,3.5 ,3.1 ,2.5x2.0x0.5 ,DUAL ,SMD ,R/TP		
6	FL507	FILTER,SAW	SFSY0037602	897.5 MHz,1.4*1.1*0.45 ,SMD ,880M~915M, IL 4.0, 5pin, B-U, 200-50, W-BAND VIII TX ,; ,897.5 ,1.4*1.1*0.45 ,SMD ,R/TP		
6	L501	INDUCTOR,CHIP	ELCH0001404	1.5 nH,S,1005,R/TP		
6	L502	INDUCTOR,CHIP	ELCH0001407	5.6 nH,S ,1005 ,R/TP ,PBFREE		
6	L503	INDUCTOR,CHIP	ELCH0001413	22 nH,J ,1005 ,R/TP ,PBFREE		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Color	Remark
6	L504	INDUCTOR,CHIP	ELCH0003839	22 nH,J ,1005 ,R/TP ,MLCI		
6	L505	INDUCTOR,CHIP	ELCH0001413	22 nH,J ,1005 ,R/TP ,PBFREE		
6	L506	INDUCTOR,CHIP	ELCH0001405	3.3 nH,S ,1005 ,R/TP ,PBFREE		
6	L507	INDUCTOR,CHIP	ELCH0001556	270 nH,J ,1608 ,R/TP ,		
6	L508	INDUCTOR,CHIP	ELCH0001403	1 nH,S ,1005 ,R/TP ,PBFREE		
6	L509	INDUCTOR,CHIP	ELCH0003847	1.8 nH,S ,1005 ,R/TP ,chip coil		
6	L510	INDUCTOR,CHIP	ELCH0012510	15 nH,G ,1005 ,R/TP ,chip coil		
6	L511	INDUCTOR,CHIP	ELCH0004701	12 nH,J ,1005 ,R/TP ,		
6	L512	INDUCTOR,CHIP	ELCH0001413	22 nH,J ,1005 ,R/TP ,PBFREE		
6	L513	INDUCTOR,CHIP	ELCH0001039	2.7 nH,S ,1005 ,R/TP ,PBFREE		
6	L514	INDUCTOR,CHIP	ELCH0003839	22 nH,J ,1005 ,R/TP ,MLCI		
6	L515	INDUCTOR,CHIP	ELCH0003835	4.7 nH,S ,1005 ,R/TP ,MLCI		
6	L516	INDUCTOR,CHIP	ELCH0004709	3.3 nH,S ,1005 ,R/TP ,		
6	L518	INDUCTOR,CHIP	ELCH0004704	4.7 nH,S ,1005 ,R/TP ,		
6	L519	INDUCTOR,CHIP	ELCH0001413	22 nH,J ,1005 ,R/TP ,PBFREE		
6	L520	INDUCTOR,CHIP	ELCH0001404	1.5 nH,S,1005,R/TP		
6	L521	INDUCTOR,CHIP	ELCH0003828	2.4 nH,J ,1005 ,R/TP ,MLCI		
6	L522	INDUCTOR,CHIP	ELCH0001402	18 nH,J ,1005 ,R/TP ,Pb Free		
6	L523	INDUCTOR,CHIP	ELCH0009110	5.1 nH,J ,1005 ,R/TP ,chip coil		
6	L525	INDUCTOR,CHIP	ELCH0001405	3.3 nH,S ,1005 ,R/TP ,PBFREE		
6	L526	INDUCTOR,CHIP	ELCH0009110	5.1 nH,J ,1005 ,R/TP ,chip coil		
6	L527	INDUCTOR,CHIP	ELCH0001402	18 nH,J ,1005 ,R/TP ,Pb Free		
6	L529	INDUCTOR,CHIP	ELCH0003826	3.3 nH,S ,1005 ,R/TP ,chip		
6	L530	INDUCTOR,CHIP	ELCH0001421	47 nH,J ,1005 ,R/TP ,PBFREE		
6	L531	INDUCTOR,CHIP	ELCH0001407	5.6 nH,S ,1005 ,R/TP ,PBFREE		
6	L533	INDUCTOR,CHIP	ELCH0001411	1.2 nH,S ,1005 ,R/TP ,PBFREE		
6	L552	INDUCTOR,CHIP	ELCH0001401	15 nH,J ,1005 ,R/TP ,Pb Free		
6	L703	INDUCTOR,CHIP	ELCH0004727	100 nH,J ,1005 ,R/TP ,		
6	L704	INDUCTOR,CHIP	ELCH0004727	100 nH,J ,1005 ,R/TP ,		
6	R132	RES,CHIP	ERHY0009505	10 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R207	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP		
6	R209	RES,CHIP	ERHY0009501	0 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Color	Remark
6	R210	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP		
6	R214	RES,CHIP	ERHY0009501	0 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R223	RES,CHIP	ERHY0000254	4.7K ohm,1/16W,J,1005,R/TP		
6	R227	RES,CHIP,MAKER	ERHZ0000204	100 Kohm,1/16W ,F ,1005 ,R/TP		
6	R229	RES,CHIP	ERHY0000290	300K ohm,1/16W,J,1005,R/TP		
6	R231	RES,CHIP,MAKER	ERHZ0000443	2200 ohm,1/16W ,J ,1005 ,R/TP		
6	R236	RES,CHIP,MAKER	ERHZ0000316	750 Kohm,1/16W ,F ,1005 ,R/TP		
6	R237	FILTER,BEAD,CHIP	SFBH0009601	220 ohm,1005 ,DCR : 0.35 , Rated current : 500mA,PBFREE		
6	R238	FILTER,BEAD,CHIP	SFBH0009601	220 ohm,1005 ,DCR : 0.35 , Rated current : 500mA,PBFREE		
6	R240	RES,CHIP,MAKER	ERHZ0000270	33 ohm,1/16W ,F ,1005 ,R/TP		
6	R241	RES,CHIP,MAKER	ERHZ0000270	33 ohm,1/16W ,F ,1005 ,R/TP		
6	R242	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP		
6	R301	RES,CHIP,MAKER	ERHZ0000483	47 ohm,1/16W ,J ,1005 ,R/TP		
6	R306	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP		
6	R308	RES,CHIP,MAKER	ERHZ0000486	47 Kohm,1/16W ,J ,1005 ,R/TP		
6	R309	RES,CHIP,MAKER	ERHZ0000483	47 ohm,1/16W ,J ,1005 ,R/TP		
6	R310	RES,CHIP,MAKER	ERHZ0000483	47 ohm,1/16W ,J ,1005 ,R/TP		
6	R311	RES,CHIP,MAKER	ERHZ0000483	47 ohm,1/16W ,J ,1005 ,R/TP		
6	R313	RES,CHIP,MAKER	ERHZ0000483	47 ohm,1/16W ,J ,1005 ,R/TP		
6	R512	RES,CHIP	ERHY0009517	22 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
6	R514	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	R515	RES,CHIP,MAKER	ERHZ0000488	4.7 ohm,1/16W ,J ,1005 ,R/TP		
6	R516	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	R517	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	R519	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	R520	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP		
6	R521	RES,CHIP,MAKER	ERHZ0000435	20 ohm,1/16W ,J ,1005 ,R/TP		
6	R522	RES,CHIP	ERHY0000185	820 ohm,1/16W ,F ,1005 ,R/TP		
6	R523	RES,CHIP,MAKER	ERHZ0000402	10 ohm,1/16W ,J ,1005 ,R/TP		
6	R526	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP		
6	R529	RES,CHIP,MAKER	ERHZ0000268	33 Kohm,1/16W ,F ,1005 ,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Color	Remark
6	R531	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	R533	RES,CHIP,MAKER	ERHZ0000401	0 ohm,1/16W ,J ,1005 ,R/TP		
6	SPFY	PCB,MAIN	SPFY0213901	FR-4 ,0.75 mm,ANY-LAYER10 ,,, , , , , , , , , ,		
6	SW501	CONN,RF SWITCH	ENWY0002304	STRAIGHT ,SMD ,0.8 dB,MUSE MODEL		
6	TH501	THERMISTOR	SETY0006301	NTC ,10000 ohm,SMD ,1005, 3350~3399k, J, R/T, PBFREE		
6	U201	IC	EUSY0344403	QFN ,24 ,R/TP ,4CH+2LDO ,; ,IC,Sub PMIC		
6	U202	IC	EUSY0371201	WLP ,20 ,R/TP ,MUIC for 5Pin Micro USB ,; ,IC,Analog Switch		
6	U203	IC	EUSY0200803	MFL ,8 ,R/TP ,Haptic Driver IC,2X2 ,; ,IC,Motor Driver		
6	U402	IC	EUSY0337101	CSP ,12 PIN,R/TP ,Touchscreen Controller IC , ,IC,A/D Converter		
6	U501	IC	EUSY0365001	TSLP-16 ,16 ,R/TP ,Triple Band UMTS LNA, 2.3 x.2.3 x.0.39 ,; ,IC,RF Amplifier		
6	U502	IC	EUSY0162301	SOT-553 ,5 PIN,R/TP ,Single 2 Input OR Gate		
6	U503	PAM	SMPY0021101	dBm, %, A, dBc, dB,5x5 ,SMD ,Linear EDGE PAM. 5005's Halogen Free ver. ,; , , , , , , , , ,LGA ,R/TP ,		
6	U504	IC	EUSY0355201	BGA ,121 PIN,R/TP ,EDGE & UMTS RF Transceiver ,; ,IC,CMOS		
6	U505	IC	EUSY0154001	US8 ,8 PIN,R/TP ,Dual 2-Input OR Gate, Pb Free		
6	U506	PAM	SMPY0020101	dBm, %, A, dBc, dB,4x5 ,SMD ,3G Dual PAM B1+8. Coupler Integrated ,; , , , , , , , , ,LGA ,R/TP ,		
6	VA301	VARISTOR	SEVY0001001	14 V , ,SMD ,50pF, 1005		
6	X501	VCTCXO	EXSK0005601	26 MHz,2 PPM,10 pF,SMD ,3.2*2.5*1.0 ,		

12. EXPLODED VIEW & REPLACEMENT PART LIST

12.3 Accessory

Note: This Chapter is used for reference, Part order is ordered by SBOM standard on GCSC

Level	Location No.	Description	Part Number	Spec	Color	Remark
3	SBPL00	BATTERY PACK,LI-ION	SBPL0098301	3.7 V,900 mAh,1 CELL,PRISMATIC ,553443,INNERPACK,WW ; ; 3.7 ,900 ,180 ,PRISMATIC ,5.5X34X43 ,6.1X44X36.5 ,BLACK ,INNERPACK ,	BLACK	
3	SGDY00	DATA CABLE	SGDY0014302	; ,[empty] ,[empty] ,1.2M , ,BLACK ,1.2m, 4, Shield case MicroUSB, ID resistor open ,N		
3	SGEY00	EAR PHONE/EAR MIKE SET	SGEY0003744	; ,RMS 20mW(0.56V,RMS) ,16Ohm+-2.4Ohm 1KHZ ,116dB+-3dB 1KHZ,3mW ,116dB 1KHZ ,96dB 100HZ ,[empty] ,BLACK ,PLUG ,GM310, ,Earphone,Stereo		
3	SSAD00	ADAPTOR,AC-DC	SSAD0034001	100-240V ,5060 Hz,5.1 V,0.7 A,CE ,AC-DC ADAPTOR ; ,90Vac~264Vac ,5.1 ,700mA ,5060 , ,WALL 3P ,USB ,		